Issue 90 ■ September ■ 1995 ■ £3.99 *Overseas price £4.25 Hfl 18.95*

AMIGA COMPUTING

Power up your Amiga with our utility extravaganza!

September 1995

AMIGA COMPUTING

All Amigas

AMIGA tools

Check out this month's double-disk utility bonanza, packed with some of the greatest Amiga utilities available

- TUDE *The Ultimate Degrader and Enhancer*
- ExChange *A MUI Version of Exchange*
- GfxCon *Image Format Converter*
- ClassAction *Application Launcher*
- LockColours *Keep Your Icon Colours*
- Jpeg datatype *The Best Jpeg DataType Around*



September 1995

AMIGA COMPUTING

All Amigas

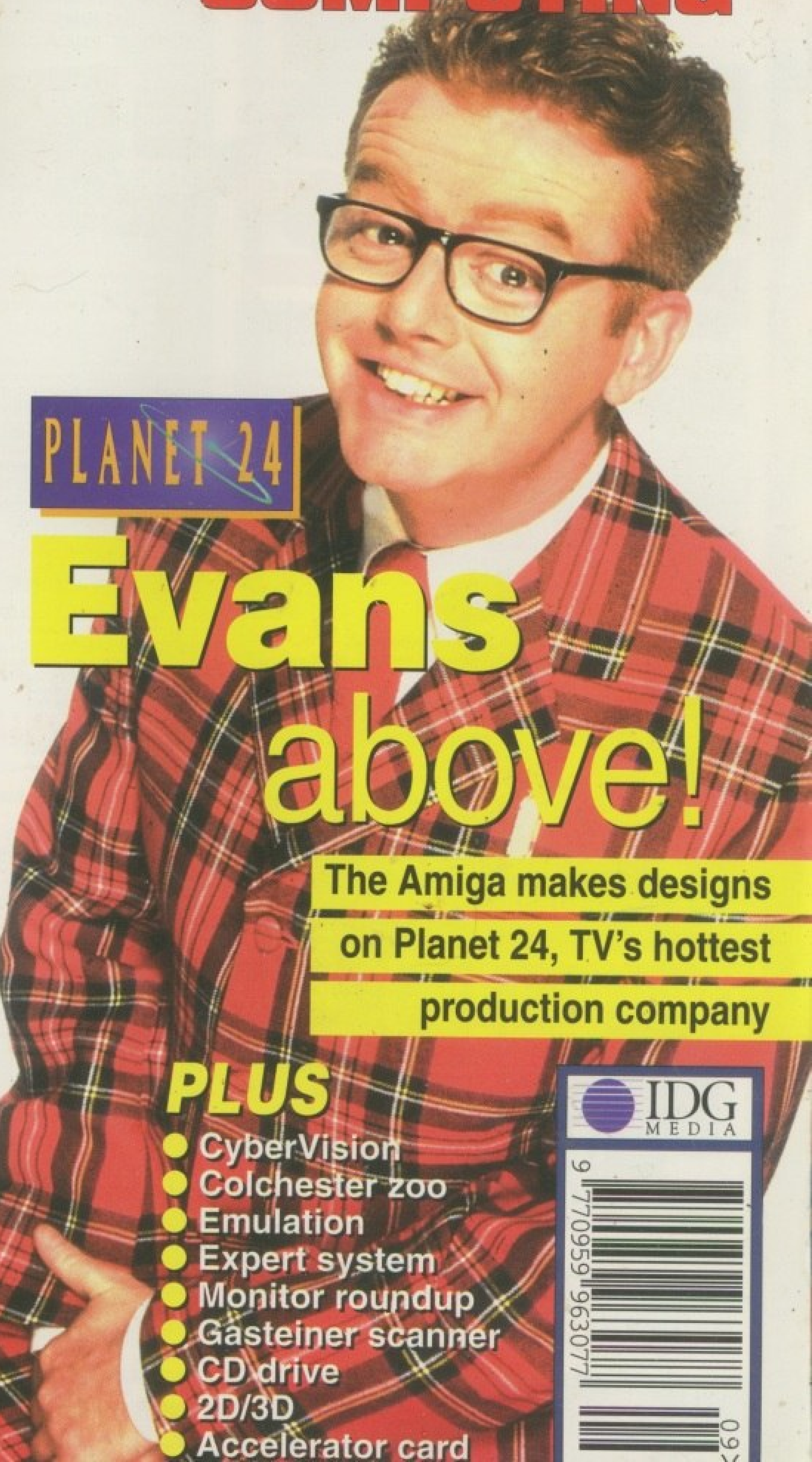
AMIGA tools 2

Another helping of even more great utilities that will enhance your Amiga

- Bouncy World *Take Vengeance On The World*
- HDSleep *Shut Down Noisy Hard Drives*
- MathScript *Create Graphics For Equations*
- ARCHandler *Access Lha Via The Workbench*



PLUS
An amazing shoot-'em-up game called ***Transplant***



PLANET 24

Evans above!

The Amiga makes designs on Planet 24, TV's hottest production company

PLUS

- CyberVision
- Colchester zoo
- Emulation
- Expert system
- Monitor roundup
- Gasteiner scanner
- CD drive
- 2D/3D
- Accelerator card

IDG MEDIA
9 770959 963077 09

QUALITY AMIGA PERIPHERALS & SOFTWARE

VIDEO AND GRAPHICS

FUSION GENLOCK
FOR ALL AMIGA COMPUTERS

FREE SCALA HT100 HOME VIDEO TITLING PROG WORTH £49 INC VAT



BEST BUY AMIGA SHOPPER 92%

- High quality graphics and video mixing desk
- FREE Scala HT100 program disk
- Add titles and special effects to videos
- Ideal for home and semi-professional users
- Supports all standard Amiga and AGA graphics
- Input and output composite video signals
- Switches between video only, computer only and mixed graphics
- Hardware fade between graphic/video
- RGB thru - saving the genlock from being unplugged when not in use
- Optional chroma key unit available September '95
- Comprehensive 16-page manual plus full colour sleeve

£99 INC VAT VID 2100

CD-ROM DRIVE

OVERDRIVE QUAD SPEED CD-ROM
FOR THE AMIGA 1200

This unit combines a CD-ROM drive with the future in Smart Card Interfaces, the PCMCIA slot. This makes for an incredibly convenient and simple to use CD-ROM drive system opening up a whole new world of CD/multimedia technology.

NEW

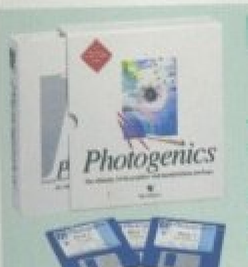


- PCMCIA connection
- Quad speed mechanism
- 600K/sec data transfer rate
- PhotoCD compatible
- Multi-session compatible
- Runs most CD³² software

SEE PAGE 2 FOR FULL OVERDRIVE RANGE

£249 INC VAT HAR 3542

IMAGE MANIPULATION
PHOTOGENICS V1.2
FOR A1200/A4000



- Manipulate and paint graphics in 24-bit
- Supports popular image formats including JPEG, GIF, IFF, PhotoCD and many more ...
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- Real-time HAM8 display
- Open design lets you to add your own loaders, savers or effects

NEW VERSION

£54 INC VAT ASP 3000

IMAGE PROCESSING
IMAGE FX v2.0
FOR ALL AMIGAS

SAVE £100 OFF PREVIOUS RRP



- 24-bit image processing
- Various Realtime painting tools
- Image thumbnails
- Enhanced text handling
- Expanded image composing
- AutoFX
- Image FX browser
- Soft edge and anti-aliasing

£99 INC VAT ASI 2132

Photogenics V1.2 .... £54.00
The ultimate 24-bit graphic and manipulation package - ASP 3000

Image FX V2.0 .... £199.00
Allows conversion of images between several different file formats - ASI 2132

Pixel 3D Professional V2.0 .... £99.00
Powerful 3D object design and modelling program handling 17 different object formats - ASP 4000

Animation Workshop V2.0 .... £69.00
Allows you to create, play, process, edit and add sound to your animations - ASA 5800

Scala Multimedia (MM400) .. £299.00
Updated version of Scala program with a whole host of new features - ASS 1042

POWER SUPPLY

Amitek A500/600/1200 .... £29.00
Beige coloured replacement power supply for A500/600/1200 - POW 0510

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A500 512K (no clock) £20.00
Takes an A500 from 512K to 1Mb - RAM 0505

A500 512K (inc clock) £25.00
Takes an A500 from 512K to 1Mb - RAM 0510

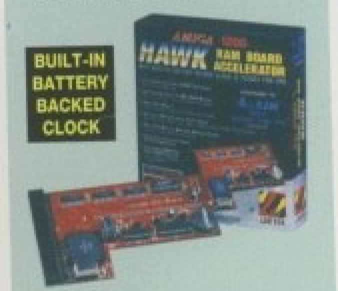
A500 Plus 1Mb £30.00
Takes an A500 from 1Mb to 2Mb - RAM 0520

A600 1Mb (no clock) £30.00
Takes an A600 from 1Mb to 2Mb - RAM 0605

A600 1Mb (inc clock) £40.00
Takes an A600 from 1Mb to 2Mb - RAM 0610

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FOR THE AMIGA 1200

BUILT-IN BATTERY BACKED CLOCK



- Plugs straight into A1200 trapdoor - No soldering required
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- Comprehensive manual with illustrations
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- Does not invalidate your A1200 warranty
- 2 year warranty



INCREASES SPEED BY UP TO 3X

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Cystal and FPU for Hawk - UPG 1250

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Cystal and FPU for Hawk - UPG 1255

MODULATOR

MAMBA MODULATOR
FOR ALL AMIGAS



The Amitek Mamba, External Modulator, makes an ideal replacement modulator for all Amiga owners. Everything needed is supplied. Like all Amitek peripherals, it comes with an easy to follow manual.

£34 INC VAT MOA 4200

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1Mb SONY FLOPPY
3½" DELUXE EXTERNAL FLOPPY DRIVE
FOR ALL AMIGA COMPUTERS



- High quality 3½" Sony mechanism
- Strong metal casing
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- Low power usage
- External PSU not required

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FOR AMIGA 500/500PLUS OR AMIGA 600/1200



These internal Amitek Loader replacement drives are ideal for users who wish to replace their existing internal drive. The pack features a high quality internal 1Mb, 3½" drive mechanism for the Amiga 500/500PLUS or Amiga 600. All that you need to fit your drive is included, plus easy to follow fitting instructions and 24 months warranty.

£34 INC VAT DRI 3600 **£44** INC VAT DRI 3605

SCSI INTERFACE

SCSI-2 INTERFACE
SQUIRREL
FOR A600/A1200



Named after the famous storage hungry animal, the Squirrel SCSI-2 interface simply plugs into the PCMCIA slot (avoiding warranty problems) and allows you to connect up to 7 SCSI devices to your Amiga at the same time. This could be any combination of hard drives, SCSI CD-ROM drives, tape streamers, SyQuest removable drives, etc.

£69.95 INC VAT HAR 4000

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14" COLOUR MONITOR
FOR ALL AMIGAS



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- 14", .39mm, CGA stereo colour monitor
- Digital RGB and CVBS
- Power and audio cables

£199 INC VAT MON 4985

MicroVitec 1438 14" £299.00
15KHz-40KHz, .28mm - MON 5438

SOFTWARE OFFERS

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£39.99 INC VAT ASO 7500

AMOS PROFESSIONAL .. £31.00
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AMOS PRO COMPILER . £31.00
Compiles your Amos programs - ASA 4832

EASY AMOS £20.00
Ultra-friendly programming langauge - ASE 1602

BRILLIANCE V2.0 .... £49.00
Advance paint & animation software - ASB 7912

CANDO V2.5 .... £99.00
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DATASTORE £49.00
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FINAL WRITER £74.95
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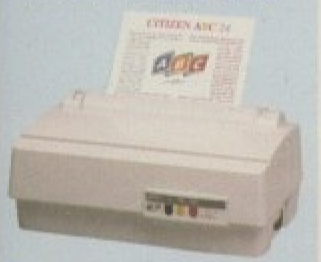
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PRINTERS

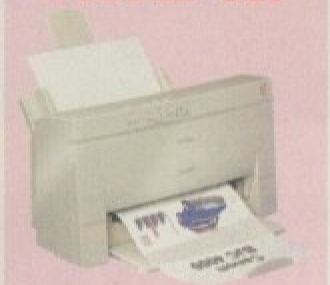
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- 5 Built-in fonts, 2 scalable to 40pt
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- Citizen 'Easystart' software for Windows and Amiga
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- Automatic and manual sheet feeder

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HEWLETT PACKARD COLOUR INK JET 660c

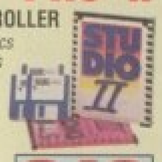


- Speeds: B&W: 270cps draft/ 134cps LQ Colour: 0.6mpp EconoFast Mode
- Res: 600 x 600dpi black and white 600 x 300dpi colour
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- 14 TrueType fonts for Windows
- Parallel interface
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PRINTER CONTROLLER



- Print 24-bit graphics
- Workbench drivers for most printers
- Prints pictures from disk using very little memory
- The ONLY professional colour management system on the Amiga

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AMIGA CD³²

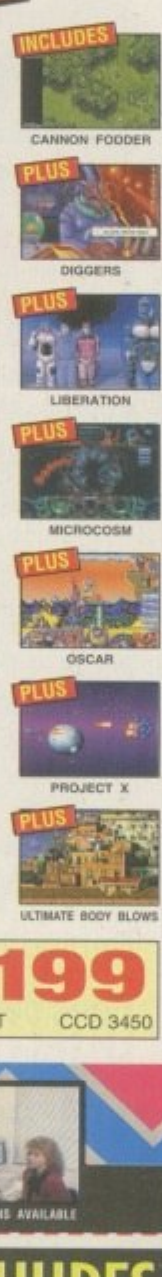
CRITICAL ZONE PACK

32-BIT SYSTEM - 7 CD TITLES



OVER 100 CD-ROM TITLES AVAILABLE

CD-ROM BASED POWER CONSOLE



MORE THAN JUST A GAMES CONSOLE

Critical Zone includes the powerful 32-bit CD³² games console with built-in dual speed CD-ROM drive, an 11 button controller and 7 top CD-ROM games. Optional upgrades include keyboard and disk drive (allowing use of A1200 software) and an MPEG video playback card allowing video CDs to be played on the CD³².

- 32-Bit processing power
- Dual speed CD-ROM drive
- 16.8 million colours
- Plays audio & CD+graphics CDs
- 11 button controller
- Titles available from £14.99
- Optional SX1 computer module - CCA 0100 @ £199
- Optional full screen video CD module - CCA 0320 @ £199

£199 INC VAT CCD 3450

HD & CD-ROM DRIVES, MICE & J'STICKS

MICE & J'STICKS

Product	Price
Logic 3 Speed Mouse — Switchable for Amiga and ST, 300dpi, ultra-sensitive buttons - MOU 4000	£11.95
Mega Mouse — Ultra high 400dpi resolution, 5 foot cable, effortless fingertip operation - MOU 1875	£12.95
Quickshot Apache QS131 — 2 fire buttons, 6 foot cable, biogrip for, maximum control, 4 suction cups - JOY 6431	£6.99
Quickshot Starfighter 1 — Turbo fire button, 6 foot cable, thumb, control, hands free auto fire - JOY 6467	£8.99
Zip Stik Super Pro — Autofire, microswitches, hand held/ table top joystick - JOY 5600	£12.95

MEGA MOUSE

FOR ALL AMIGAS



- Ultra high 400dpi resolution with opto-mechanical encoder
- 5 foot cable
- Effortless fingertip operation with reliable micro-switch buttons

£12.95 INC VAT MOU 1875

CD-ROM & HARD DRIVES

Product	Price
Seagate ST9145A 127Mb + GVP Software — Upgrades an Amiga 600 or 1200 to a hard disk model - HAR 0127	£199.00
Seagate ST9190AG 171Mb + GVP Software — Upgrades an Amiga 600 or 1200 to a hard disk model - HAR 0171	£229.00
Seagate ST9240AG 210Mb + GVP Software — Upgrades an Amiga 600 or 1200 to a hard disk model - HAR 0210	£249.00
OverDrive Double Speed — Allows access to Amiga specific CDs and play CD³² software - HAR 3540	£179.00
OverDrive Quad Speed — Allows access to Amiga specific CDs and play CD³² software - HAR 3542 SEE FEATURE ON PAGE 1	£249.00
OverDrive HD (IDE) — Ultra Fast 560Mb Hard Drive, plugs onto PCMCIA slot - HAR 3544	£249.00
OverDrive HD/CD Combo Unit — Double speed CD drive with space for HD as well - HAR 3548	£199.00

DATAFLYER 4000SX SCSI CONTROLLER

FOR THE AMIGA 4000

Allows the connection of external or internal drives, tape back-up units, CD-ROMS, flopticals and SyQuest. Includes many drivers



- SCSI expansion card
- Internal and external connections
- Cable & drivers inc.
- Supports rigid disk blocks and SCSI direct

£89 INC VAT HAR 1310

Panasonic PD SYSTEM

READ/WRITE OPTICAL DRIVE

- Quad speed CD-ROM Drive with 600K Data Transfer and 195ms access
- 650Mb re-writable optical disk drive with removable cartridges. Cartridges (DIS 1500) £45.00

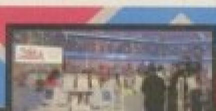
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HARROW	Debenhams	Station Rd	0181-427 4300
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LONDON	Debenhams	334 Oxford St	0171-580 3000
* LONDON	Harrods	Knightsbridge	0171-730 1234
LUTON	Debenhams	Arndale Centre	01582 21201
MANCHESTER	Debenhams	Market St	0161-832 8666
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ROMFORD	Debenhams	Market Place	01708 766066
SHEFFIELD	Debenhams	The Moor	0114-276 8611
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262A

2

22065

Contents

SYSTEM

The essential guide to Amiga gaming

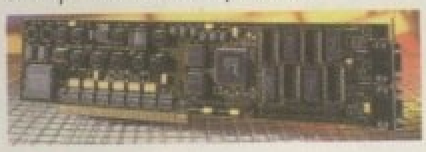
Game Reviews





Timekeepers – page 96

Reviews





Features



Next issue on sale 24 August

COVER STORY



Evans above

The Amiga launches itself into the TV and commercial's arena – we ask Planet 24, makers of the Big Breakfast, and Premier Vision how and why they use the top ranking machine

See page 32



THE COVERDISKS

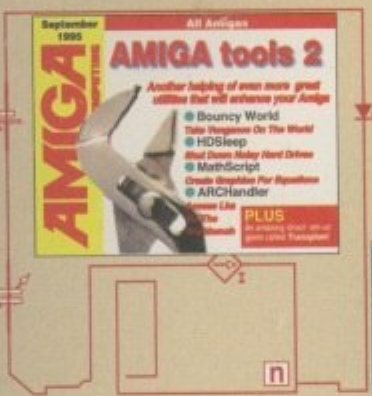
Page 16

Amiga Tools 1 & 2

Featured on this month's shareware bonanza:

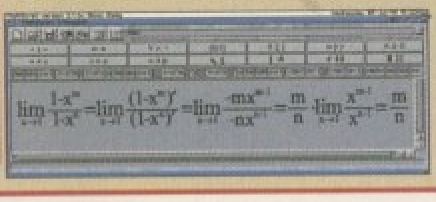
DISK 1

MCP; Exchange; GfxCon; ClassAction; Jpeg DataType; MultiFile System; TUDE; LockColours



DISK 2

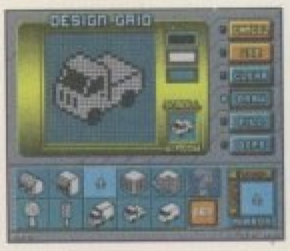
ARChandler; MathScript; FastView; InterPlay; HDsleep; winArranger;



Plus: Transplant – an addictive one or two-player shoot-'em-up



REGULARS





AMIGA GUIDE





Subscriptions



Turn to page 72...

...for details of *Amiga Computing's* subscription offers this month

floppy drives



3.5 super xl drive

The Super XL Drive allows you to store 3.5MB on a high density disk.

3.5 SUPER XL DRIVE **£129.95**



1.76 xl drive

The XL Drive allows you to store a 1.76MB on a high density disk.

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1.76 XL DRIVE INTERNAL **£75**
1.76 XL DRIVE A4000 .... **£75**



internal drives

PC881 A500 .... **£30.95**
PC882 A2000 .... **£35.95**
PC883 A600/1200 .... **£35.95**

hisoft

SQUIRREL SCSI INTERFACE ... **£59.95**
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MEGALOSOUND **£29.95**
VIDEOMASTER AGA **£59.95**
VIDEOMASTER AGA RGB **£99.95**
VIDEOMASTER **£52.95**
VIDEOMASTER RGB **£89.95**
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PROMIDI INTERFACE **£19.95**

squirrel scsi interface included where you see this logo

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FAT AGNUS 2 MB **£29**
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RS232 CABLE **£6**
SCSI EXTERNAL **£15**
WORKBENCH 3.1 A500/2000 .... **£85**
WORKBENCH 3.1 A3000/4000 ... **£95**
ROM SHARE DEVICE **£19**
2.04 ROM CHIP **£25**

power scanner

The award winning Power Scanner includes the following features: Scan in 24-bit at upto 200DPI (all Amigas not just AGA)*, Scan in 256 greyscales at up to 400DPI (all Amigas), Thru'port for printer connection, Fully supports AGA chipset, Display HAM8/24-bi images on a non-AGA Amiga (via image conversion), full editing facilities included. Works with 2.04 ROM or above, min 1MB (recommend 2MB).



POWER SCAN 4 B/W **£89.95**
POWER SCAN 4 COLOUR **£169.95**
OCR (BOUGHT WITH SCANNER) ... **£20**
OCR SOFTWARE **£49.95**
POWER SCAN 4 S/W ONLY ... **£20**
PC INTERFACE + COL S/W **£49.95**
PC INTERFACE + B/W S/W **£39.95**



flatbed scanners

24-bit colour A4 flatbed scanners, complete with software, cables and manual. (Squirrel included with Paragon flatbed scanner)

EPSON GT-6500 .... **£539.95**
24-BIT 1200DPI SCANNER

PARAGON 600 .... **£399.95**
24-BIT 600DPI SCSI SCANNER, INCL. SQUIRREL

hard drives

HEWLETT PACKARD

1 GIGABYTE 3.5 SCSI **£459**

MICROPOLIS

2 GIGABYTE 3.5 SCSI **£659**
4 GIGABYTE 3.5 SCSI **£1099**
9 GIGABYTE 3.5 SCSI **£2199**

HITACHI

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510MB 2.5 IDE **£299**
810MB 2.5 IDE **£599**
1 GIGABYTE 2.5 IDE **£719**

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m-tec hd

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M-TEC AT500 BARE **£99**
M-TEC AT500 420MB **£259**

floppy expander

Save 1.5MB on a standard floppy drive and 3MB when used in conjunction with the XL Drive 1.76.

DISK EXPANDER **£10**

disk expander

Disk Expander can add upto to 50% to your hard drive capacity and works with all drives including SCSI, IDE, Floppies and even the RAM disk. Disk Expander works on any Amiga with any Kickstart.

DISK EXPANDER **£25**

overdrive hd

External PCMCIA 3.5" IDE hard disk

OVERDRIVE BARE **£99**
OVERDRIVE 420MB **£259**

dat drives

2 TO 4 GIGABYTE **£659**
4 TO 8 GIGABYTE **£899**
2 TO 4 CARTRIDGE DL90 .... **£12**
4 TO 8 CARTRIDGE DL120 ... **£19.95**

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128 OPTICAL **£479**
230MB OPTICAL **£719**
1.3 GIGABYTE OPTICAL **£1999**
230MB OPTICAL DISK **£29.95**
1.3 GIGABYTE DISK **£139.95**

syquest drive

SYQUEST DRIVES .... **£POA**

new product

zip drive

ZIP DRIVE 100MB SCSI **£199.95**
100MB DISKETTE **£19.95**

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Backup to 520MB onto a 4hr VHS tape. Version 3 has new backup modes for Amiga's with a 68020 or higher CPU.

VIDEO BACKUP SCART **£65**
VIDEO BACKUP PHONO **£60**
UPGRADE TO VERSION 3 .... **£20**

amiga 4000

a4000 tower

new



The tower comes complete with 6 x 5.25" drive bays, 5 x 3.5" drive bays, 7 x Zorro slots, 5 x PC slots, real time clock and a 230 watt power supply.

A4000 TOWER **£349**

octogen scsi-2

SCSI-2 controller card for the Amiga 2000/4000. Upgradable to 8MB RAM.

OCTOGEN 2008 .... **£129**

aga flicker fixer

ScanDoubler II is a full 24-bit AGA flicker fixer which automatically de-interlaces all AGA screen modes and scan doubles non-interlaced PAL/NTSC modes to allow VGA monitors to display them. Supports VGA, S-VGA and Multiscan monitors. Pixel sharp picture, even at 1440 horizontal resolution and has a standard 15-pin VGA type connector. Comes with composite video/S-VHS outputs.

SCAN DOUBLER II **£399**

tandem cd-de

Connect a CD-ROM, Syquest and any IDE hd to your A2000/3000/4000. Comes complete with cable and s/w. ROM 2.04 or above.

TANDEM CD-DE **£69**

award winning amiga peripheral manufacturers ......

GVP

gvp products

Power Computing Ltd are now the official joint owner and manufacturer of Great Valley Products Inc. For more information, please call 01234 273000.

a4000 68060

A 68060 accelerator board for the A4000 running at 50MHz and allowing upto 128MB of user installable memory and a SCSI-II hard disk controller. The board can be configured with either 4MB, 8MB, 16MB or 32MB industry standard SIMMs.

A4000 68040 (0MB RAM) £699
A4000 68060 (0MB RAM) £829
4MB STANDARD ADD £139
4MB GVP ADD £159

a2000 68060

A 68060 accelerator board for the A2000 running at 50MHz and allowing upto 128MB of user installable memory and a SCSI-II hard disk controller.

A2000 68040 (0MB RAM) £699
A2000 68060 (0MB RAM) £829
4MB STANDARD ADD £139
4MB GVP ADD £159



gvp ram

Official GVP RAM SIMMs.

4MB GVP RAM £159
16MB GVP RAM £549

gvp hc-8 scsi

SCSI hard card which can fit 8MB of RAM on-board.

HC-8 SCSI CARD £99

gvp g-lock

Award winning Amiga Genlock.

G-LOCK AMIGA GENLOCK £259
DSS-8 SOUND SAMPLER £55

io-extender

Zorro II card that provides an additional serial port, parallel port and connection for optional RS422 and RS232 port. Call for details

ioEXTENDER £59

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Mac and PC emulators for the Amiga.

EMPLANT MAC BASIC £239.95
BASIC MAC EMULATOR
EMPLANT MAC OPTION A .. £279.95
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EMPLANT MAC OPTION B .. £279.95
HI-SPEED SCSI INTERFACE
EMPLANT MAC DELUXE ... £399.95
INCLUDES OPTION A AND B
E586 DX MODULE £89.95
PC EMULATOR MODULE

new



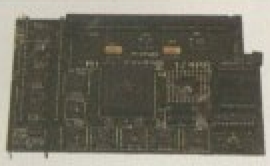
glidepoint

Intuitive cursor control at your finger tips replaces the mouse or trackball and 'Tap' for an instant selection.

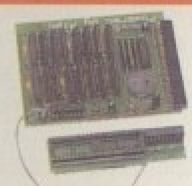
ALPS GLIDEPOINT £59.95

new









a500 68020ec

A 68020 EC processor accelerator card for the A500 and A500+, with an option to fit a 68881 or 68882 co-processor (PLCC or PGA). This card can fit upto 4MB FAST RAM and is fully auto-configuring.

NOT COMPATIBLE WITH GVP HARD DRIVE

A500 68020 EC 0MB RAM ... £99.95
A500 68020 EC 4MB RAM .. £239.95

megachip ram

Increase your Amiga 500/2000 chip RAM to a total of 2MB. MegaChip does this by using its own 2MB RAM and also now includes a 2MB Fat Agnus. No soldering is required.

MEGACHIP RAM £159.95

VGA ADAPTOR £15

a500 2mb ram

A 2MB RAM board for the A500 which fits in the trap door slot.

A500 2MB RAM £90

MEMORY CARDS

512K RAM WITH CLOCK £24.95
512K RAM WITHOUT CLOCK . £19.95
A600 1MB RAM £39.95
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Pen and cursor controlled.

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INCL. PEN, CURSOR AND POWER TAB S/W
GENIUS 5 x 5 EASYPAINT . £99.95
INCL. PEN AND POWER TAB S/W

modems

ACEEX V32 BIS 14.4 NOT BT APPROVED £139
X-LINK TRUE V34 28.8 BT APPROVED £229.95
TRAPFAX MODEM SOFTWARE ... £49

printers/monitor

MICROVITEC 1438 14" £289
EPSON STYLUS INC.PAPER £489
EPSON STYLUS PRO XL A3+ .. £1499
EPSON STYLUS/PRO XL INCLUDE STUDIO II SOFTWARE

graphic/video

Colour graphic cards for the Amiga.

PICASSO II 2MB RAM £249.95
INCLUDING TV PAINT JNR.
PICASSO II 2MB RAM £399.95
INCLUDING TV PAINT 2
CYBERVISION 64 .... £329.95
64-BIT GRAPHICS ENGINE, INCLUDES 2MB
VIDEO DAC £25
18-BIT GRAPHICS ADAPTOR
MAXIGEN 3 .... £299.95
VIDEO GENLOCK

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SYSTEM OWNED ....
DESCRIPTION ....
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EXPIRY DATE .... SIGNATURE ....

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NEWS

By ADAM PHILLIPS

Escom's marketing push continues

More positive actions are taking place as Escom have announced the arrival of a further 37 stores to their already 127-strong retail outlet force. In further plans to broaden their public image, 1 July saw the unveiling of their first steps into TV advertising on British television.

The campaign lasted two weeks and depicted a '40's-style detective offering advice to a confused female PC buyer. While in this instance Escom are plugging the PC, it's another sign of their commitment to making an impact on the British high street.

The company are also considering TV commercials for the Amiga, but the main confirmed thrust for the relaunch will be in the press. With this kind of muscle nurturing the Amiga, the hope is that there will be a solid retail platform and reputation already installed by the time new stocks of Amigas are released – which can only be good news for the machine. Meanwhile, there's more information this month for prospective 4000T owners – apparently, Escom are planning to build 22,000 system boards of the high-end Amiga machine in Philadelphia – 12,000 for the European market, 10,000 for the US market – meaning that the China production line will not be operative for at least a year. If rumour is to be believed, all 22,000 have already been bought by various distributors across the world.

An unconfirmed rumour also floating out of Escom is that negotiations with the Philippine government to release the substantial Commodore inventory held in the Philippines have been partly successful. Some parts have already arrived in Germany, but talks are continuing between the government and Escom for the rest.

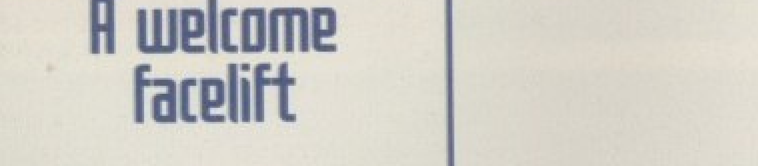


Escom PC ad: TV commercials for the Amiga are under consideration at the moment, but the main advertising thrust will be in the press

A welcome facelift

Just before going to print, the new logo for the Amiga machine came in via fax accompanied by the following blurb: "The Amiga wordmark evokes both a classic and elegant feel as well as a modern look. Bodoni, the font selected to build upon, is a classic font. Further refinements involving the manipulation and subtraction of serifs and the addition of the red square create a progressive, yet elegant logo. The red square represents technology and adds energy to the logo by implying a sense of motion."

Here at *Amiga Computing*, we'd like to know what you think of the new logo. Comments to the usual address please.



The new logo: Escom unveil the label that will be on the front of all new Amiga machines

More research on the 'net



Electronic Telegraph: Carrying out research on the 'net

The Internet would appear to be a fascinating attraction for researchers in a quest to find out more about the relationship between operator and computer. Michael Herbert Associates have become the first European company to conduct market research focus groups in cyberspace. What this means is simple – a 'room' was set up and users from all over the world were invited to join the group via e-mail.

The research conducted for the Electronic Telegraph unveiled some interesting results. After ploughing through the transcripts of the meetings, the group's findings would suggest that the technology doesn't hinder people from getting their emotions across.

Indeed, the researchers believe that people tend to be more unhibited in cyberspace than when communicating face-to-face.

This freedom of expression may compensate in part for the fact that the moderator cannot take cues from respondents' facial expressions and body language. There was one unforeseen problem though to arise from the enthusiasm of the participants. Apparently, several people were difficult to get off the line because they were so eager to continue in the discussion.

And the end use of these findings? "This type of research means we are talking about a global consumer and we have almost instant access to their psyche and feelings and attitudes to brands and products no matter where they are in the world," admits Herbert.

Whether it is viewed as an invasion or a privileged invitation to attend a cyberspace market research group on the Internet, Herbert believes the time is not far off when consumers from all round the world "will be baring their souls to the hidden persuaders." Now there's something to look forward to?

Rocking the boat

Scala has established itself as the leading edge in multimedia creation, respected and envied by owners of all machines. However, a Swedish company, ImageLab Technology, are on the verge of releasing ImageVision, a package they claim is the most easy-to-use multimedia authoring system available.

The package consists of three editors. The script editor is where presentations are built by placing and linking icons together. Double-clicking on said icons brings up the configuration window where pictures, sounds, animations and more can be added.

The next stage is the click editor where buttons are made interactive to enable users to reach other areas of the presentation. The buttons can be rectangular, circular or polygon shaped and sounds can be added for extra effect.

Finally, there's the graphics editor where circles, lines and rectangles can be created, manipulated and saved as clipart to be loaded into any imported background, where they will be automatically remapped to make full use of the particular screen's palette.

For more details, contact ImageLab Technology on +46 455 20038 or fax them on +46 455 18866.

A retraction

In the July issue of *Amiga Computing*, we printed a story that stated criminal proceedings had been brought against WTS. This information was incorrect and the company is only under investigation at present. We would like to apologise to the company for the mistake and WTS have also stated that any allegations of fraud are entirely unfounded and any problems were brought about by Commodore's bankruptcy, not through fraudulent behaviour.

LightWave update

Available at present in the special pre-launch bundle, anyone buying this set-up can upgrade to the full-blown version on its imminent release. The surprise news is that the final release software will include the much-vaunted texture preview boxes only previously seen in the PC version.

Premier Vision are patting themselves on the backs at the moment after convincing Newtek that the preview was a vital and much-wanted option. The company can be contacted on 0171-721 7050.

Future still in doubt

Following, *Amiga Computing*'s coverage of ZCL's demise in the last issue, the mail order company have had to close down more of their Calculus stores and lay off further employees – over 40 jobs have been lost in the past month – as pressure mounts to find a buyer, according to Computer Trade Weekly, the industry's newspaper. The firm used to own 21 Calculus outlets throughout the country to sell over the counter to consumers, but due to the slip into receivership only a dozen stores remain open.

ZCL's other assets include the Taurus wholesale division and INDI mail order business.

At present, joint administrative receivers Ian Best and David Duggins are running ZCL as a going concern, hoping a buyer will step forward at some point in the near future. The hangover of Commodore's bankruptcy continues to affect companies involved in the Amiga industry.

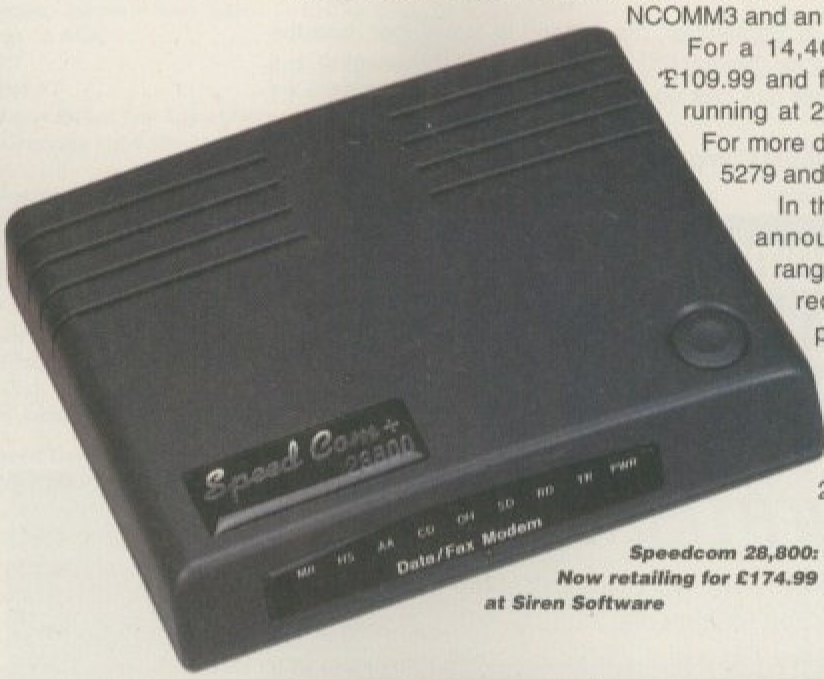
Summer modem savings

For those whose fingers are itching to do the walking on the Internet, Siren Software are offering discounts of up to £25 across their entire range of Speedcom modems if bought before the 31 September. Fully compatible with the Amiga, the modems come with NCOMM3 and an AmigaGuide to Comms.

For a 14,400, punters can expect to shell out £109.99 and for the top-of-the-range Speedcom+BF running at 28,800, the cost has fallen to £174.99. For more details, call Siren Software on 0161-796 5279 and ask for Simon Cobb.

In the meantime, US Robotics have also announced price cuts across their entire range. The Sportster 14,400 Fax has been reduced to £139, the Sportster 28,800 plummets from £299 to £199, and the WorldPort Dual Standard Cellular pocket modem comes down in price to £149.

Phone US Robotics on 01734 228200 for further information.



Speedcom 28,800: Now retailing for £174.99 at Siren Software

Pirate proof at last?

With the software industry all over the world suffering at the hands of pirates, Diskxpress, the computer disk suppliers, believe they have developed the ultimate in CD protection in the form of Laserlok. The system utilises a combination of software encryption and laser marking on the CD that work in conjunction with each other to give the highest level of security.

The protected software operates only when the original CD-ROM is present in the CD-ROM drive of the machine, thus eliminating piracy at the end user level. Diskxpress also reckon that they have cracked the CD copying machines – none of the current models are able to work round the Laserlok system.

Finally, Laserlok is apparently completely impractical for pirate CD plants to re-master and reproduce thousands of pirate software copies, thus preventing piracy at industrial level. If all these claims turn out to be verified in long-term use, the software industry may be able to breath a sigh of relief and Diskxpress can look forward to an extremely swollen bank account.

Gasteiner show a success

Organised in conjunction with *Amiga Computing* and ST Format, the recent Gasteiner Spotlight Show held down in London on the weekend of 10-11 of June has been hailed a success by several of the Amiga developers who attended it. With nearly 4,000 visitors to the exhibition, it is obvious there's life in both the Amiga and ST.

"What a brilliant show," proclaimed Golden Image. "Surely the show for Amiga and Atari users without the maddening crowd of games players!"

At present, Gasteiner are in negotiations with Escom for another show later this year. We'll keep you posted with any developments.

The digital age has arrived

While the Amiga continues to dominate television screens with its special effects work, the recent Director's Guild celebration of a 100 years in cinema saw one of Britain's most talented directors give a key speech on the dawning of the digital age. John Boorman, director of Southern Comfort and Hope and Glory, reminisced about the nature of film and at the same time welcomed the increasing use of digital technology in the movies, hinting that spools of film will most likely become a thing of the past.

If Escom's plans are successful, the Amiga will hopefully continue to play a part in the digital revolution.

Largest library in the world

With the multitude of different CDs pouring in through our post box, EM Computergraphic are releasing three CD collections they believe provide Amiga users with unbeatable value. The CDs will compromise of PD/shareware and DTP/DTV material.

Every font has its own IFF file for quick viewing access and there's also the option of buying a series of typeface books launched along with the CDs that'll offer a hard copy alternative for instant reference. Clipart and images all have their own thumbnails and are arranged in the relevant directories.

The first of the CDs will be released in September, the second in November, and the final one in January next year. The price for the first CD is £24.99 plus £1 packaging, but customers buying before the 8 September can pick up the first collection for £19.99 + £1 for packaging.

For further information, contact Errol at EM Computergraphic on 01255 431389.

The home page

Already receiving a warm welcome from visitors, *Amiga Computing*'s home page is waiting to be perused. For the latest news, previews and reviews, simply type in : http://www.demon.co.uk/amigacomp.

ADVERTISERS INDEX

News briefs

Multi-Data-Machine

New from Fourth Level Developments is the rather promising 650Mb re-writable phase-change and quad-speed CD-ROM drive. Featuring the optical drive and CD drive, the system is available as a SCSI II-based system and has the appropriate software for Amiga formats.

Also included is the fully updated version of the MO-MIGA multimedia support system and Ami-Safe Safe, a new filing system which, according to its makers, stops your drive from becoming invalidated when your machine crashes while writing to disk.

For more info, contact Fourth Level Developments on 0117 9558225.

Internet freedom of speech

While the cybersurfers of this world face the ominous prospect of US legislation preventing the appearance of obscene material on the Internet, the bill has been harshly criticised by Senate House Speaker Mr Newt Gingrich - he claims that the legislation is "a violation of free speech and it's a violation of the right of adults to communicate with each other."

The debate continues.

All in a good cause

Hoping to be the first computer exhibition to raise money for charity, the Tamworth Computer Show is being held on the 22 September at the Assembly Rooms. Featuring a classic computer stand with the Oric, Pet, and the Vic 20 making guest appearances, among others, and a host of stalls selling cheap software and other goodies, the organisers are raising money for cancer research.

Entrance costs £1.50 and, for pre-advance bookings, write to D.Betts at TCS, 117 Sorrel, Amington, Tamworth, Staffordshire.

Software fixes

For those mourning the loss of their classic games and utilities because they don't work on the A1200 or 4000, they can now take comfort in the news that Binary Emotions can fix 99.9 per cent of any problem makers at a nominal fee.

Costing £2.99 per one software fix (P&P 50p plus 30p per disk over two), mourners should send their software by recorded delivery to Binary Emotions, 11 Macklin Road, Salisbury, Wiltshire SP2 7HB, with cheques made payable to Binary Emotions.

If you still have any queries, call Andrew Jolly on 01722 416074.

Fractals from France

France Festival Distribution are translating two of their products for release in the English Amiga market. Art & Frontiers and MandelTour are fractal generating programs that apparently feature exclusive formulae and lightening rendering speeds.

Art & Frontiers and MandelTour are available for £[illegible] and £30 respectively from the following address: France Festival Distribution, 3 Rue Anatole France, 13220 Chateneuf les Martigues, France.

Emerald Creative Technology

PC Emulation



PC Task 3.1

PC Task 3 allows you to run software designed for IBM PCs and compatibles on you Amiga ! It emulates a 80286 based PC, so you can run Windows 3.1 and applications like Microsoft Word and Excel. On an AGA Amiga you can even run SVGA screen modes !



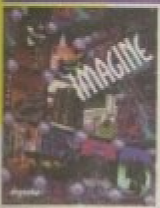
RRP £79.95 - Emerald Price £59.95

Upgrade from v2 £34.95 - please enclose your PC Task v2 disk
Upgrade from PD version £44.95 - please enclose your disk

SPECIAL OFFER

Order PC Task 3.1 and Dir Works 2 together at the incredible price of just £74.95 !
Limited stocks only

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Imagine 3
Rolling Upgrade program
Includes Imagine 3.1 to 4 !
You must have Imagine 3 to qualify.
3.1 & 3.2 in stock now.
£99.95

Art Department Professional v2.5	£139.00
AD Pro Conversion Pack	£59.99
ASDG GT6500 Scanner Software	£89.95
Caligari 24	£89.95
Caligari Broadcast v3.1	£249.99
ASDG Pro Control	£50.95
Imagine 3.0	£99.95
Maxxon Magic (Screen saver)	£23.95
Morph Plus	£129.95
Essence vol 1 + Forge	£79.95
Essence vol 2 + Forge	£79.95
Naksha Hand Scanner (400 dpi mono hand scanner for A500 & A500+)	£69.95
Pixel 3D Pro II	£94.95
Pro Vector 3 New (Pro quality structured drawing package)	in soon - call for details
Real 3D Classic	£59.95
Real 3D v3 New	£299.95
Real 3D 2.4 to 3 upgrade	£166.95
X-CAD 2000 New Lower Price	£22.95
X-CAD 3000	£119.95

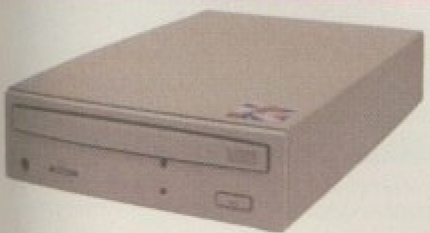
Hardware



The amazing Squirrel SCSI interface lets you add SCSI devices to your Amiga 600/1200, including CD Drives (includes CD32 emulation)
£59.95

Pro Grab 24RT v2.5 New Version (24 Bit Real-Time Colour Frame Grabbing)	£125.95
Pro Grab 24RT SHVS	£please call
Rendale 8802 Genlock	£159.95
Rendale 9402 SVHS	£279.95
Squirrel SCSI Interface	£64.95
Video Backup System + Phono cable	£54.95
Video Back-up System + Scart cable	£57.95
Vidi Amiga 12 AGA	£64.95
Vidi 24 RT	£149.95
Vidi 24 Pro RT (High Quality 24 Bit Real-Time Frame Grabber)	£209.95
Naksha Greyscale Hand Scanner for Amiga 500 and 500+	£
Tabby Graphics Tablet (A5 Graphics Tablet)	£57.95

CD Rom Drives



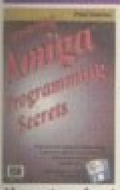
Quad Speed CD Rom Drive

Plugs directly into PCMCIA slot and provides SCSI interface for another 6 SCSI devices
Includes PSU, manual, Audio CD Utility, CD32 Emulation & Photo CD Software.

Quad Speed Drive £299.95 **Double Speed Drive £199.95**

Connects to Syquest Drives, DAT, Scanners, Hard Disks & More

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Mastering Amiga Programming Secrets
Learn a whole range of coding tricks to enhance & improve your programming techniques
£19.95

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Mastering Amiga Dos Vol2	£17.95
Mastering Amiga Dos Scripts	£19.95
A1200 Beginner's Pack (Includes A1200 Insider Guide, A1200 Next Steps, Amiga Insider Video + 4 disks of shareware)	£36.95
Workbench 3 Booster Pack	£36.95

Workbench Upgrades

OS 3.1 for A500/2000 (Includes new Kickstart Roms and Workbench 3.1)	£83.95
OS 3.1 for A1200, A3000 & A4000 (Please specify which machine)	£93.95

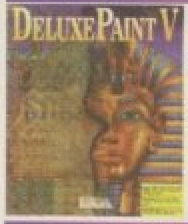
Wp & Dtp

Final Copy 2	£47.95
Final Writer 3	£69.95
Mini Office	£37.95
Pen Pal	£29.00
Pagestream 3	£174.95
Wordworth 3.1SE	£44.95
Wordworth 3.1	£79.95

Desktop Music

Bars&Pipes Pro v2.5	£199.95
Upgrade - v2 to v2.5	£79.95
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Internal Sounds Kit	£24.99
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Power Tools Kit	£29.99
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Rules for Tools	£29.99
PatchMeister	£79.95
SuperJAM! 1.1+	£59.95
SyncPro SMPTE Box	£151.95
Triple Play Plus	£159.95
Aura 12 bit Sampler	£79.95
Deluxe Music 2	£69.95
Megalosound Sampler	£23.95
Music X 2 New Lower Price	£44.95
Pro Midi Interface	£19.95
Technosound Turbo 2	£25.95

Paint Packages



DPaint 5

New features include 24 bit support, multiple palette anims, camera pans, gradient fades and lots more !
£59.95

Deluxe Paint 4.1 (Non AGA version)	£54.95
Personal Paint 6.3 New Version	£49.95
Photogenics	£49.95
TV Paint 3 New Lower Price !	£299.95
Brilliance 2	£45.95
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Cygnus Ed Pro 3.5	£59.95
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Intos	£25.95
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Grolier Encyclopedia CD (Runs on CD32 and AGA Amigas)	£28.95
GFX Sensation CD	£18.95
Lightworks by Tobias Richter CD	£38.95
Speccy Sensation CD (ZX Spectrum Emulator + over 500 games)	£13.95
Star Trek Multimedia CD	£25.95
Arcade Classics CD	£9.95
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Video & Multimedia

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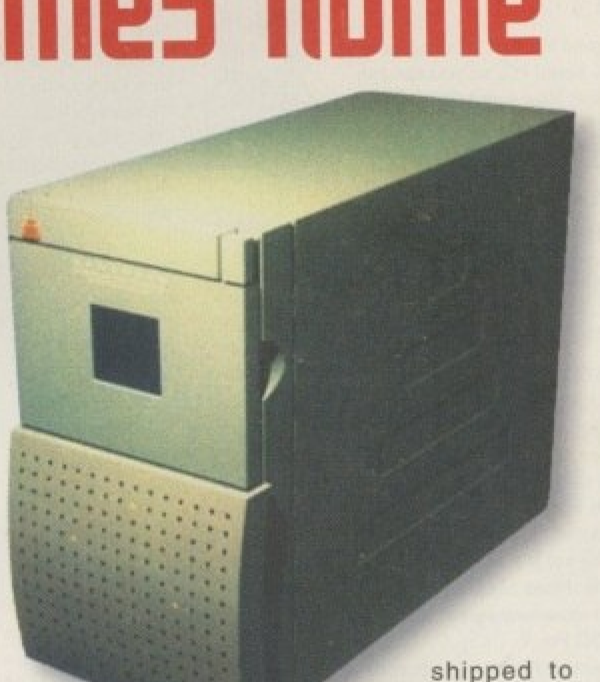
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The Amiga comes home



On a surprise move, Escom have announced that Amigas are once again going to be manufactured in the US – in fact, right back in Pennsylvania, not far from where the first Amigas rolled off the production lines a decade ago.

According to Dan Stets of the Philadelphia Inquirer, Edward Goff, who was Vice President and general counsel for Commodore, is working with two former Commodore engineers and two Pennsylvania firms to produce circuit boards for the A4000T and assemble the machines.

Plans to manufacture the systems in China fell through – the Chinese won't be ready to build Amigas for at least a year. In order to get the machines out in time for Autumn, Escom have made an agreement with Zober Industries in Crodyen, Pennsylvania to produce around 22,000 A4000T motherboards. About 10,000 of these are destined for the North American market, while the remaining 12,000 will probably be shipped to Scotland for assembly for the European market.

The North American machines will be assembled by QuickPak Corporation of Norristown. At press-time Escom hoped to have machines in production by August.

USA news



By Denny Atkin

Emplant PC update

For those who've been hoping their Emplant board is the solution to all their emulation problems, things are looking up. Version 2.1 of the Emplant E586DX PC emulator is now available. This update now supports printing (serial ports still aren't implemented), Extended memory managers, and it will run Windows and DOOM.

Speed is still a problem, though, especially when running in 386 Enhanced Mode (the mode Windows uses when multitasking DOS applications and running 32-bit programs). Still, 2.1 is dramatically better than the first releases, and if history repeats itself the emulation should shape up into something pretty solid before the year is out.

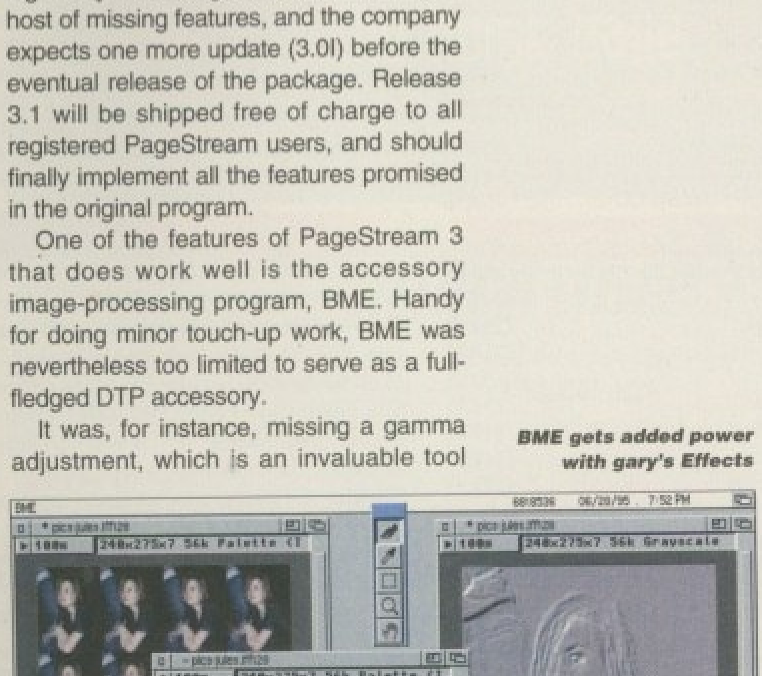
Soft-Logik gets effective

At the time of going to press, Soft-Logik were about to ship PageStream 3.0h, fixing many more bugs and implementing a host of missing features, and the company expects one more update (3.0l) before the eventual release of the package. Release 3.1 will be shipped free of charge to all registered PageStream users, and should finally implement all the features promised in the original program.

One of the features of PageStream 3 that does work well is the accessory image-processing program, BME. Handy for doing minor touch-up work, BME was nevertheless too limited to serve as a full-fledged DTP accessory.

It was, for instance, missing a gamma adjustment, which is an invaluable tool for lightening too-dark pictures in your documents.

BME gets added power with gary's Effects



Now, Soft-Logik has added more oomph to BME with a $25 add-on package called Gary's Effects. Once installed, 12 new menu commands are added to BME, giving the desktop publisher access to a variety of powerful effects. The new effects include Solarize, which allows you to set the threshold above which pixels are negated, resulting in a combination of positive and negative images; Median, which streamlines pixel values to make colours more consistent; and Average, which is similar to Median, but more suitable for some pictures.

A number of effects can help you adjust the brightness of your pictures for the best printed image. Minimum spreads out dark areas and shrinks bright areas, while – you guessed it – Maximum spreads out bright areas and shrinks dark areas. Equalize evens out pixel values to make shadow details more apparent, and Threshold sets the cutoff point for conversion to black and white. Perhaps most useful is Gamma, which brightens the middle range of grey levels without losing significant detail. Your blacks stay black and your whites stay white.

Other adjustments include Hue and Saturation; Blur, which takes off sharp edges by eliminating noise; and Histogram, which graphs the distribution of colour values – you can use this before and after applying other effects to see their results. Finally, there's the powerful Convolve operator, which offers total control and has 20 presets, including Gaussian Blur to add haze; Gaussian Sharpen to remove haze; Laplacian Edge Enhancement to highlight edges and darken other areas; Low-Pass to enhance dark areas; High-Pass to emphasise bright areas; and Vertical Smooth to smooth NTSC video images. These are only a few of the presets. You can also load and save your own, and control all of the effects with ARexx.

These effects are safe to experiment with. Try an effect with its default settings, and if you don't like the results, simply choose Undo, change the effect's slider gadget and try it again.

Soft-Logik has an expanding line of PageStream 3 accessories. Other add-ons include a Jpeg graphics loaded, a WordWorth filter that imports WordWorth documents with almost all their formatting in tact, and a set of Templates for the popular Paper Direct series of fancy papers. All of these, including Gary's Effects, are now shipping.

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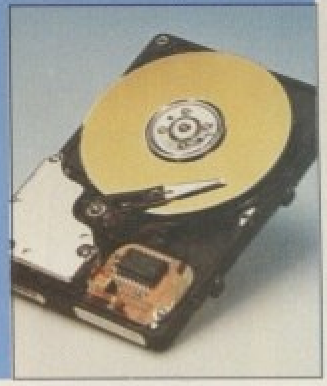
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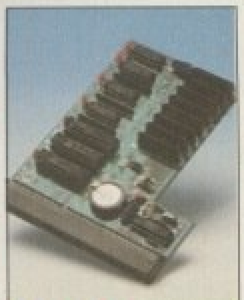
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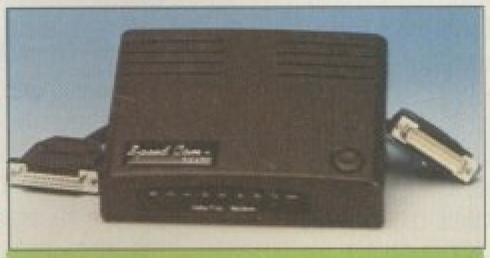
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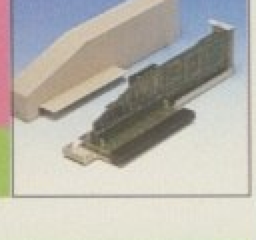


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Anyone for an inferiority complex?

Forrest Gump wonders why certain Amiga users think the grass is greener on the other side



It's been amusing the last few months – the clamour in the Amiga games industry and shareware scene to release a Doom-beating product. Magazine covers have been filled with the agent provocateurs beating their chests that their version is *the* game which will make Amiga users hold up their heads high once again.

Doom and its multitude of variants have graced PC monitors for sometime now – most of them particularly unremarkable and unoriginal. While we can all look forward to the likes of Gloom, Alien Breed 3D and other Doom busters, the eagerness and almost desperation of some Amiga users for some of the PC's clobber reveals a much more interesting picture.

There seems to be a peculiar breed of Amiga enthusiasts who yearn for the PC's catalogue of software. They feel as if they are missing out on something great. They've fallen for those glossily shot Microsoft commercials with a ten-a-penny philosophy holding them together. They've been bowled over by IBM's OS/2 Warp system commercials and how, well, right on it all is. "I normally go and make a cup of tea while the computer's printing. Now I don't have to." Oh dear, how long have you had to wait for that – the Amiga has been doing it for years.

What about the PC's software– its paint packages and 3D rendering software? Its Windows '95? Its games? Mutter the disgruntled few.

Amiga Computing has been interviewing the companies that produce some of the highest standards of multimedia and graphics work in the business – they have the money to buy anything they want... SGI, PowerMacs, P6 PCs, Dec Alpha machines and more – but for some strange reason they consistently stick with the Amiga for a hefty part of the work.

Even in this issue, the PC's paint packages are compared to the Amigas by Premier Vision and, in the past, by pop promo makers Mu-Media. And guess what? The Amiga's TV Paint and DPaint remain at the forefront of their artistic work. 3D renderers? Perhaps it's worth reminding the vague minded that the likes of LightWave started out and continue on the Amiga, not the PC. Already in the PC magazines, the Amiga-grown package is taking journalists by storm and there are still drawbacks to the PC's version.

What about Microsoft's soon-to-be-released-at-long-last-sorry-about-the-wait Windows '95. From first impressions, like OS/2 Warp, it's only beginning to do what the Amiga achieved ten years ago.

PROPAGANDA

There's one thing the enemy in whatever arena has always used – that of propaganda (sorry, marketing strategies). While the Commodore of yesterday were about as popular as an outbreak of Ebola in your own living room and couldn't sell life to a soul-sucking zombie, Microsoft and its competitors know where the consumer power really lies. It's all to do with image, and some Amiga owners, while understandably disillusioned with the last year's proceedings, are falling for the hype.

Bill Gates has done a marvellous job. He's crawled inside your head and littered your brain with flash images, talk of the future, but the reality is far from impressive once you've torn off the shiny, sparkling wrapping paper.

As for games – OK, there's no doubt that at present the Amiga games market is at an all-time low, that we'll have to wait and see what the boys and girls at Escom can come up with. Believe me when I say that software companies are like a flock of sheep that follow their prize shepherd round, baaing at him, hoping he won't lead them into an abattoir but give them a full rewarding life. Once the Amiga is back on its feet, they'll all come rushing back.

In the meantime, if games are an absolute necessity, why give your hard-earned money to a powerful but clumsy, annoying, irritating machine like the PC? If you're that desperate for a games machine of the future, forget the PC – it's too much. Go and spend £299 on a Playstation and shut up while the rest of us carry on using the machine that has single handedly, with its multitude of users, started companies, greenlighted films, and offered a cheap, flexible system for creative and business types alike to finally realise their dream on whatever scale. AC

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THE Cover

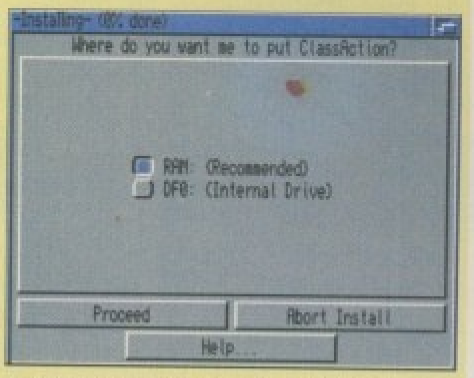
On this month's jam-packed CoverDisks we have loads of brilliant utilities which should make your Amiga life that much easier, with a little fun thrown in for good measure

Extracting CoverDisk files

If you have already booted this month's CoverDisks, you may have noticed a slight change to normal. We are now using Commodore's installer utility to try and make extracting the archives as easy as possible for you.

To extract any single archive, simply double-click its icon and follow the on-screen instructions. If you want to quickly extract the program to RAM, select the NOVICE level on the welcome screen and press proceed once on the current screen, and then again on the next. The program can now be found in your RAM disk.

You also have the option of using a floppy disk. If you pick this option make sure you have a blank formatted disk at the ready, and if you only have one disk get ready for lots of disk swapping and a long wait.



The Amiga installer needs to be told where to extract the files to. Simply click on the appropriate destination

Transplant

System: Workbench 2 and above

Note: To run Transplant, just boot the second disk.

Transplant is a game best played with two players, although you can play a one-player game. You can either play co-operatively, or if you are in a particularly unfriendly mood, you can play a friend to the death. In one-player mode you have the whole screen, in two-player mode it's a split-screen affair and a little trickier. There are loads of weapons to collect too. When it boils down to it, it's simply a great blast-'em-up that should keep you entertained into the wee small hours.

You may notice that there are no text file instructions for this game, that's because the author didn't supply any, in fact, this game appeared anonymously on a bulletin board. If you are the author of this little gem, get in touch with us.

Basically though, you simply shoot anything that moves and pick up powerups to beef your weapon level.



When playing a one-player game, you get the whole screen to yourself. You can also see the enemy coming a mile away



In two-player split-screen mode, things are a little more cramped. You can also play co-operatively or blast the heel out of each other

GfxCon

Author: Dirk Farin
Workbench: 1.3

A lot of graphics work is done using the Amiga. Hardly a revelation but those of you regularly involved in creating graphics will have no doubt encountered the old problem of your art program not being able to read some of the many graphic file formats in existence on many computers.

There are quite a few, such as Jpeg, BMP, PCX, Targa, Tiff, GIF and many more. Thankfully, programs like GfxCon,

ClassAction

Author: Gasmi Salim
Workbench: 3.0

If there's one thing I like about Macintosh computers, it's the way they easily handle files. Unlike the Amiga, a file on the Mac can have an application associated to it so that when it is double-clicked the associated application is run and the file loaded ready for manipulation.

ClassAction provides a similar feature which allows you to automatically launch an appropriate application when a file is dropped on ClassAction's AppIcon. Owners of hard drives will have many files stored on disk, all of varying types such as picture files (IFF, TIF, Jpeg etc), text files, sound files and modules, and many others.

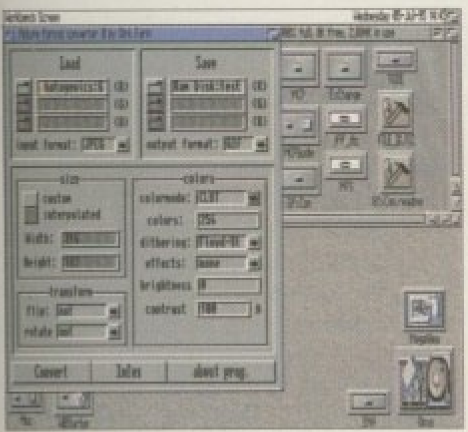
ClassAction provides a quick and convenient way to launch the appropriate application for the file by automatically recognising what the file type is and then either loading the appropriate application for the file or giving you a choice of applications to choose from.

For example, if you have an IFF picture file, you may want to view it, or actually change it using an art program.

rDisks

which are utilities dedicated to image conversion, are plentiful.

GfxCon allows you to load in many picture file formats and output them to another format, most likely the Amigas IFF. It also offers a little more. As well as converting the image to another format, there are a number of effects you can perform, such as rotating the image, re-sizing it (with or without interpolation) and dithering.



Want to convert graphics file formats easily and quickly? Then GfxCon is what you need

ClassAction will let you assign both a simple picture viewing utility or an art program like Photogenics to IFF files, so when you drop an IFF file on the ClassAction AppIcon it will let you launch the viewer or Photogenics. Also, if the application can accept a filename as a parameter, it will be loaded into the application ready for processing.

RECOGNITION

ClassAction requires you to enter certain information about a file type before it can automatically recognise it. You can do this in one of two ways. The first and most simple way is to have ClassAction recognise it by its name. IFF files, for instance, sometime have an extender after the main name. This may be .IFF. The same is true for sound files such as 8SVX. Another more common example is icon files. These always have the extender .INFO after them so you could have ClassAction load your favourite icon editing application when any files with .INFO in their name are dropped onto the ClassAction AppIcon.

However, this is not a 100 per cent accurate method of recognising files. It may be that a file does not have an extender. For example, an IFF file is called PICTURE1. Using the name-matching method will not recognise this file because it doesn't have an .IFF extender.

Another more powerful and reliable method is to use the Offset feature. This allows you to actually check the contents of the file to find out what type it is. For example, all GIF files have the string GIF at byte 0 of the file. Just load a GIF file into a hex editor and you will see it. Another example is lha files. At hex offset 2 the string -lh will be found if it is an lha file.

Thus, using this method is a more reliable way of recognising files as this information will nearly always be the same. The only time it may change is if the file type is updated by the company who own the copyright for the file type, which is relatively rare.

ClassAction will let you check on up to five offsets to further confirm that the file is indeed the required type. For example, an lha file will also have the value 6d at byte offset 6.

All this information is set up using the ClassAction preferences editor. This is where you also tell ClassAction what applications to launch. There are quite a number of common file types already set up for you, such as lha, Jpeg, Mpeg and many more.

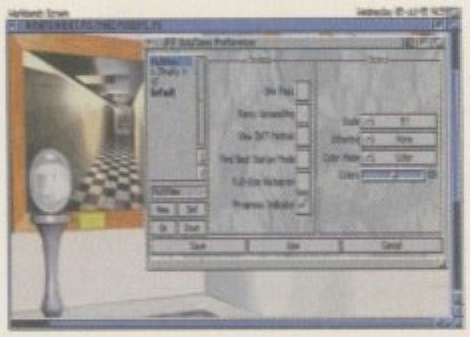
JPEG DataType

Author: Christoph Feck
Workbench: 3.0



DataTypes are a wonderful idea. Any program that uses them can load all the datatypes you have installed on your Workbench without knowing anything about that particular file format. Now you probably already have a Jpeg datatype installed, so why a new one? Well firstly speed. This sucker's a scorcher, and written by the author of 'FastJPEG' you would not expect anything less. Secondly configurability – this datatype has its own preferences. For any datatype program you can specify exactly how it will read in Jpeg pictures. Just a few of the options include number of colours, HAM mode, whether to use dithering, and it will even display a neat little progress indicator if you want.

There are actually two version of the preference program. One uses the normal Amiga GadTools, while the other uses the super sexy MUI for its interface.

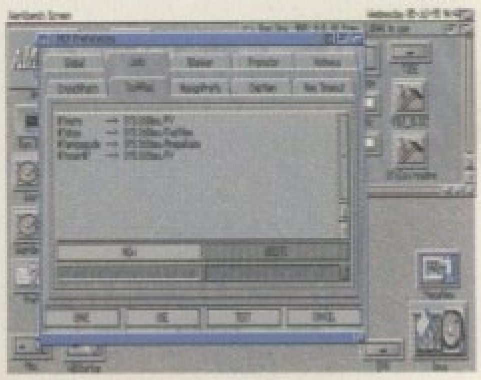


This Jpeg datatype will allow you to load Jpeg format pictures and also features various options to select

MCP - Master Control Program

Author: AlienDesign
Workbench: 2.0

This program is lining itself up to be the mother of all Workbench expansion programs. Workbench is nice to use but there are always little features it seems to lack, such as Tool Alias, Assign preferences, automatic decrunching and a decent screen blanker. Before you know it you've got 20 programs in your WBStartup drawer, and Workbench is taking ten times as long to load.



MCP is one of those utilities which is an all-in-one solution to many problems and is packed with features

Well now you can delete all those programs off the face of your hard drive, as MCP can do all that and more. Basically, MCP has more features than you can shake several sticks at. To configure all of these, a lovely MUI preference program is provided. So what are you waiting for – stop skulking at the back of the newsagents, get home and install this sucker!

MCP Guide

Author: Trevor Morris
Workbench 2.0

Okay, so MCP is a great program but the documentation is a little thin on the ground. Well it's virtually none existent, so Trevor Morris, being the nice chappy I'm sure he is, has produced this comprehensive AmigaGuide. So now you can not only have MCP you can know how to use it to!

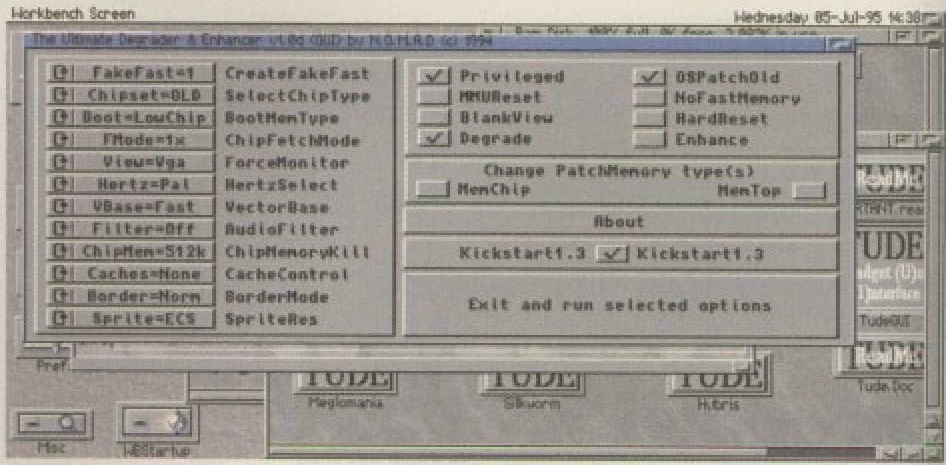


TUDE

Author: NOMAD
Workbench: 2.0

Incompatible software is not a funny business, so anything that can help the situation is always a blessing. TUDE, which means 'The Ultimate Degrader and Enhancer', sounds like it should do the job, and it certainly does.

A comprehensive list of options are available and can be set from CLI, and a GUI or separate icons can be set up for each incompatible program. If TUDE cannot get a program to run, I am pretty sure nothing else will.



TUDE lets you degrade your Amiga so you can get problem programs to work

LockColors

Author: Trogeir Hovden
Workbench: 3.0

LockColors is a little commodity which will allow you to specify what colour specific pens on the Workbench screen are going to be. This may not sound too amazing, but anyone using Magic Workbench icons will know that icon colours go crazy on screens with more than eight colours. With LockColors you can make sure icon colours are always correct.

MultiFileSystem v2.1

Author: Nicola Salmoria
Workbench: 2.0

AmigaDos, being the flexible friend that it is, allows you to read a number of different disk formats. If you have the right software installed you can read and write PC and Mac formatted floppy disks, as well a number of file systems that can give you speed and capacity advantages over the conventional Amiga filing system.

The downside to all this is that each file system has to be referred to by a different device name, and 'DF0:????' icons pop up on the Workbench screen. What MFS does is to unify any filing system you want under a single device name.

So Amiga, PC and Mac disks can all be referred to as DF0:. If you wish to format a disk, you will be asked what file format the new disk should be. MFS automatically recognises the current file system and will pass all disk commands to it.

MFS also provides a commodity, which runs in the background, to allow you to specify which file system you wish to use.

Bouncy World

Author: Nick.Christie
Workbench: 2.04

There are times when your mind begins to wander while using your computer, a time when you start to ponder the significance of the universe and our insignificance within it, a time when your thoughts are dislocated, slowly straying away from what you were doing on your computer only a few minutes ago. In other words, you're becoming really bored and fed up.

At times like this, many people fire up some of the those small games, such as Klondike, and have a quick go until their brain and thoughts become aligned to what they were doing before .

Bouncy World is one of those strange programs which is on hand for just this situation. It serves no purpose whatsoever, other than to stop you falling asleep at your keyboard until your brain gets back in gear.

Once installed, a sprite of the world bounces around the screen and you can hit it with the mouse pointer to shove it around. It's a real globally unfriendly program.

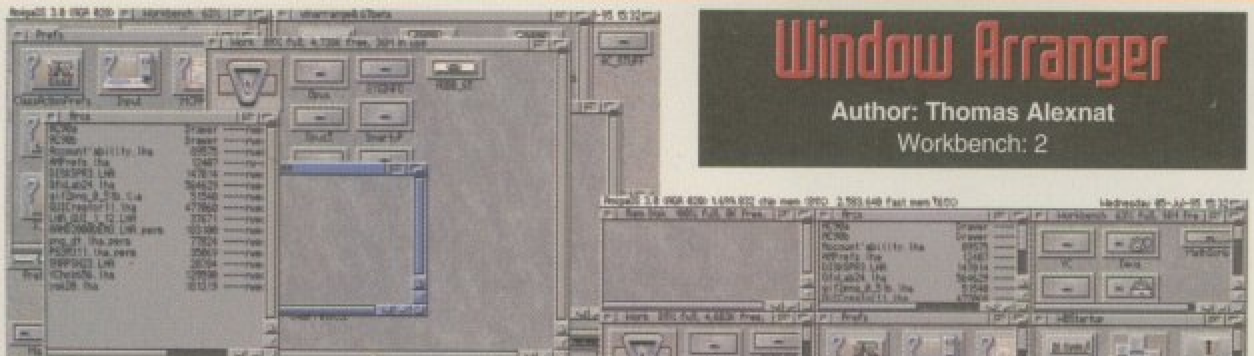
HDSleep

Author: Tomasz Muszynski
Workbench: 2.04

HDSleep is a commodity which allows you to turn off your hard drive's motor after a specific period of time. You can

Window Arranger

Author: Thomas Alexnat
Workbench: 2



Here's a before and after shot example of just how Window Arranger can tidy up your Workbench

This multitasking malarkey is all very well and good, but it is very easy to get carried away. Before you know what is going on you've got 20 Workbench windows open, four shell windows, heaven knows how many applications, and a little planet Earth bouncing around the screen.

What you need in your life is a bit of – stability something to help sort out your Workbench. Here to the rescue is window arranger which lets you clean up that almighty mess that is your Workbench screen.

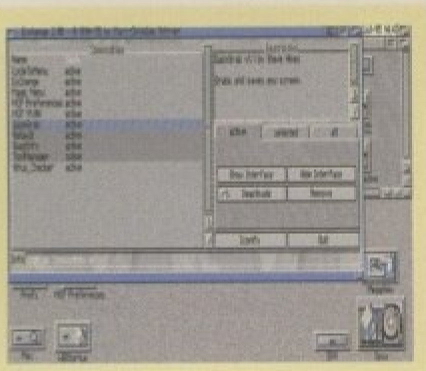
Window arranger gives you a number of options about how the windows are to be laid out – either horizontally, vertically,

ExChange V2

Author: Marc Schroer
Workbench: 2.0

We still seem to be in a state of MUI mania, because here is a MUI-based exchange replacement. Commodore's standard exchange program did its job, but it looked crummy – not even applying to their own style guides – and had only the most basic functions.

This MUI replacement looks the business, as do all MUI programs, and it gives you more control over the commodities, allowing you to affect all the currently running commodities, or even a selected range. You need will need the MUI application which was given away on our July issue CoverDisks.



A MUI Exchange utility to replace the really boring one which comes with Workbench

Faulty CoverDisks

If you should find your *Amiga Computing* CoverDisk damaged or faulty, please return it to:

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Please allow 28 days for delivery

also specify a hotkey which will allow you to immediately switch off the hard drive motor at the press of a key. Any access to the hard drive will automatically switch the motor back on again.

HDSleep only works with A1200 and A4000 machines and should work with most modern hard drives. See the program's documentation file for a list of drives it has been tested with.

Fast View

Author: John Hendrikx
Workbench: 2.04

Fast View is a utility which lets you view picture files in IFF, GIF, BMP, PCX and Jpeg formats. There are many similar programs which do this, but Fast View is, well, very fast.

It was also designed with both OCS/ECS and AGA users in mind too. For example, Fast View allows those users with OCS/ECS machines to view HAM8 and IFF 24-bit pictures in HAM screen mode.

Interplay

Authors: Stian AndrÇ Olsen & Espen Skog
Workbench: 3.0

This is one of the best CD players for the Amiga. There are quite a few out there but we believe this is the only one which features the ability to list the tracks on your music CDs by name instead of just having a track number.

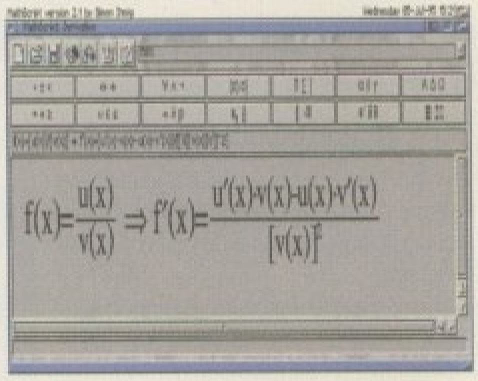
Other features include random playing, track preview – which plays 10 seconds of the track – and many other features.

MathScript

Author: Simon Ihmig
Workbench: 2.04

This utility allows you to create mathematical formulae with those strange and fancy characters. It's ideal for those of you who need to import these strange mathematical characters into your word-processor documents or DTP layouts.

You simply type in the formula you need and MathScript will create the characters required. You can then save the resulting formula as a file in formats such as EPS or Tiff for importing into your documents.

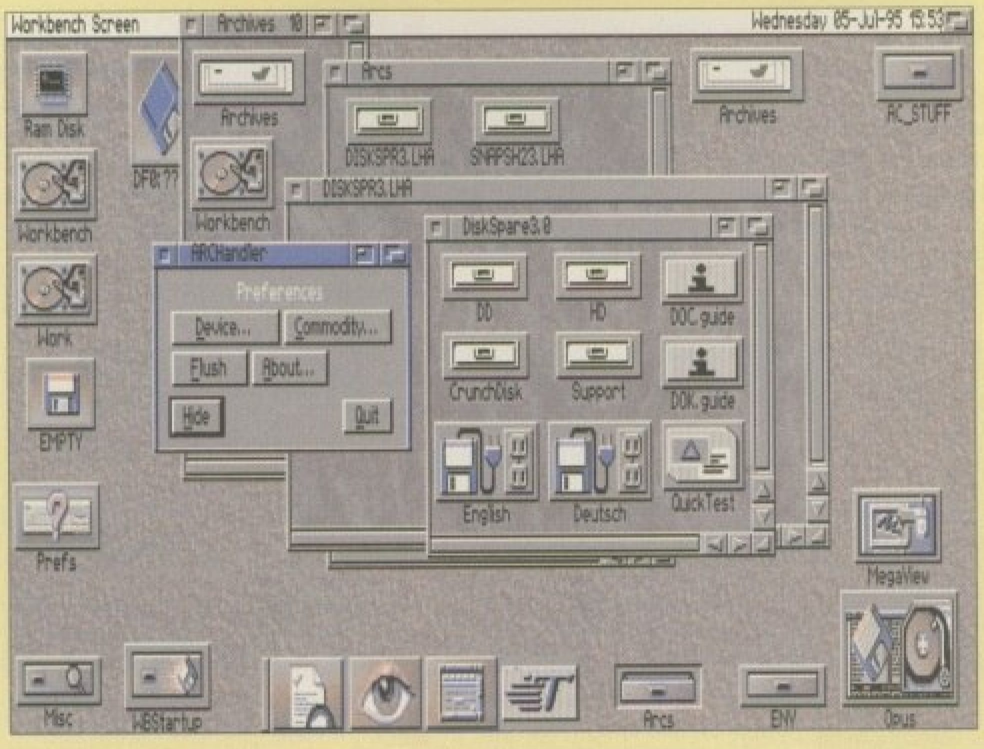


ARCHandler

Author: Rafael D'Halleweyn
Workbench: 2.04

ARCHandler is a neat little utility which allows you to quickly view the contents of archived files. Not only that, it will also allow you to read text files and run program files contained within the archive.

Once run, ARCHandler puts its own drive icon on the screen called Archive. If you double-click on this you can browse through the various devices and directories on your system. If any devices or directories contain filenames with .lha at the end, ARCHandler will assign a drawer icon to them and you can then treat the .lha as though it has already been extracted, allowing you to read and execute any files in there.



ARCHandle makes accessing and viewing archived files a breeze by treating the contents as though they were in a normal drawer

cascade or in a chess board fashion. Everyone has there own individual tastes, so the only way to find out which one you like best is to try each type out. This is done by simply adjusting the icon tooltype to the sorting method you want.

It is also possible to choose exactly which windows are to be resized and moved. You can either specify that only windows owned by Workbench can be affected, or you can build up a list of specific tasks and window names in a config file. If you find your Workbench is too cluttered, then perhaps this is exactly what you have been waiting for.

Personal Paint 6.3

Now that you've had a chance to play around with Personal Paint 4 on our coverdisk, why not upgrade to the latest version?
Available for only £39.95 on disk or even better value CD-ROM, Personal Paint v6.3 is a powerful and intuitive paint, image processing, animation and 24-bit printing package.





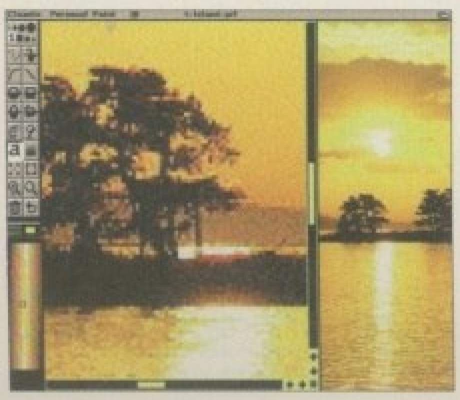
Animation Features: Storyboa... Superior Compression, Multi... Palettes, Frame-by-Frame Tim...

Features of Personal Paint 6.3 include

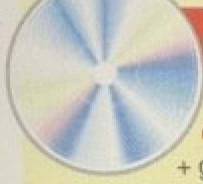
- Animation (featuring storyboarding, superior compression, multiple palettes, frame-by-frame timing, ANIM-5/7/8 and hybrid formats, etc.)
- New, faster image processing effects, including transparency, alpha channel and single-image stereograms (both SIRDS and custom pattern stereograms, as in 'Magic Eye')
- Sophisticated 'behind the scenes' memory management, including virtual memory (swaps inactive image data to Fast RAM and disk storage) and multiple levels of undo and redo



- First paint program worldwide to support the new PNG (Portable Network Graphics) file format. Includes an ARexx script to convert GIFs to PNG.
- Support of Retargettable Graphics (display cards like the Picasso, Retina, Piccolo, Rainbow, EGS, Talon, Cybergraphics etc.)
- Animation on RTG display cards (with or without double-buffering)
- Direct, high-quality 24-bit printing (Colour and Black & White) and interface to third-party software such as Studio Print Server
- Professional and fast modes for converting 24-bit pictures (IFF, PNG, PCX, PBM etc.) to 256 colours or less
- HAM, HAM8 and Picasso 24-bit viewer active during colour reduction
- External input/output modules (loaders and savers) for easy extensions and upgrades. Modules for IFF, PNG, PCX, PBM, Amiga DataTypes and several others are included. A GIF module is available from public domain sources.
- Support and editing of IFF, PNG and GIF project annotations (Author, Copyright and Comment fields, plus Amiga filenotes)
- Autoscroll painting
- Workbench application icon (drag and drop)
- Basic set of ARexx commands for presentations, format conversions and printing



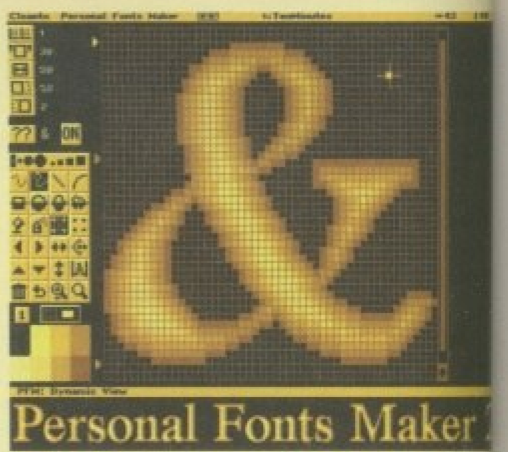
- ASL-compatible file requester
- More power through machine language code: the software is, in part, up to 500 per cent faster
- 'New Look' user interface
- A collection of utilities, including colour fonts, new DeskJet printer drivers (up to four inks) and Jpeg DataType



Cloanto Personal Suite 6.3 CD-ROM

On CD-ROM:

- Personal Paint 6.3 + gallery of pictures and animations, stereograms and stereo animations, fonts
- Personal Fonts Maker 1 (for Amiga and Printer Fonts) + dozens of printer downloadable fonts
- Personal Fonts Maker 2 (professional version for colour fonts) + dozens of professional colour fonts
- Personal Write 4 + Electronic versions of famous books



This offer is only valid for three months, so order now while stocks last. Send your completed order form to: Personal Paint 6.3 Offer, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP.

Personal Paint 6.3 order form

Please rush me:

☐ Personal Paint 6.3 at the bargain price of £39.95 (including VAT and p&p) – saving £10 off RRP

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Address ____________________

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Postcode __________ Daytime phone __________

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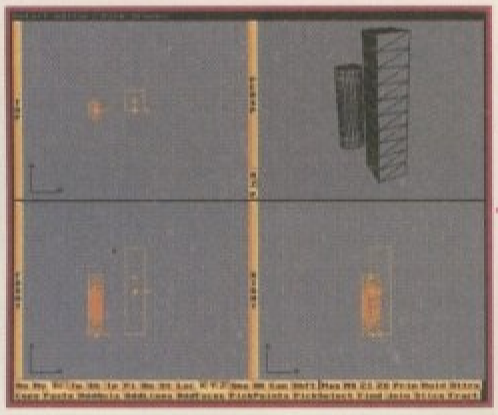
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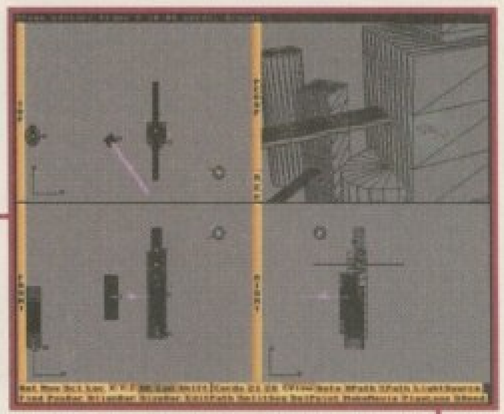
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Building basic shapes in Imagine is simply a case of selecting a Primitive from the pre-defined selection



Once you have created your building blocks you can load them into the Stage Editor of Imagine and set your scene

Bridge the gap

Steve White explains how the world of 3D can prove an invaluable ally to the low-end Amiga user

With Imagine and, more obviously, LightWave becoming such predominant players in the Amiga scene nowadays, many of those Amiga owners who lack the power to utilise such 3D applications may be feeling a little left out. However, there are many instances when these programs can be used in a way so as to act as a means to an end rather than the end – a kind of intermediate.

What this article aims to show is how you can use Imagine, or any other 3D package for that matter, to help make 2D image creation a lot simpler and quicker than relying solely on a 2D art package. As Imagine is the more financially feasible package when compared with LightWave, I have decided to concentrate on this package alone, although all the techniques can be adapted across applications.

Rendering a complex scene in Imagine can take a while and many users won't even have the memory to begin rendering. Even so, Imagine can output images in wireframe and shaded polygons which you can then load into a paint package such as Brilliance or Deluxe Paint and touch up. The great bonus with rendering in wireframe or shaded is that very little Ram is required and the scene will take far less time to render than a complex, Ham8, Hi-Res Interlace image.

In this example, I have taken a futuristic city scene, the skeleton of which I rendered in Imagine. Trying to produce realistic perspective effects in a 2D paint package is extremely difficult – almost impossible. This is where a 3D application proves an invaluable ally.

BUILDING BLOCKS

Most computer-generated artwork originally begins with a series of blocks and lines. In the city example the buildings and roads started out as simple blocks which I then painted over. As the background buildings have no real perspective anyway, they were designed solely in Brilliance.

In order to have a good visualisation of how your image is going to look, you should first draw a rough on paper. This will give you an idea of how much of the workload can be performed in 3D. The next step is to load up Imagine and create a new project for your design.

Once a project has been selected you must create a suitable sub-project and set the rendering presets accordingly. Select ILBM-12bit, B/W Wire and turn off any references to HAM and the AGA chipset. Obviously, you don't want to render a wireframe image in HAM or 256 colours.

With your project defined you can go to the Detail Editor and begin creating your blocks. More often than not you will simply be able to select the predefined primitives and then just extrude and resize them. Don't worry about setting the scene in the Detail Editor as this is done in the Stage Editor – just create each building block for your image and save them. In the case of the city, all I had to do was add a primitive Disk and Plane and then Extrude them via the Mold menu option.

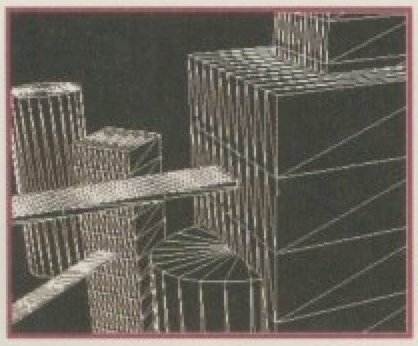
When you have finished building your blocks you can then enter the Stage Editor where you will be able to set your scene up. You can also tweak the size and orientation of your objects from here so that they represent your rough image drawn previously. The great bonus with using a program such as Imagine to build the skeleton of your scene is that you can easily alter the position and rotation of the camera to give the best view. You may even be able to find a better camera shot than the one you had originally envisaged.

Once you are happy with your scene you can return to the Project editor and render the image. Because you have only asked Imagine to render in wireframe with limited colours and resolution, the rendering time should take less than a minute. When the rendering is complete you can quit Imagine, load up your favourite 2D paint package and then load in the wireframe picture.

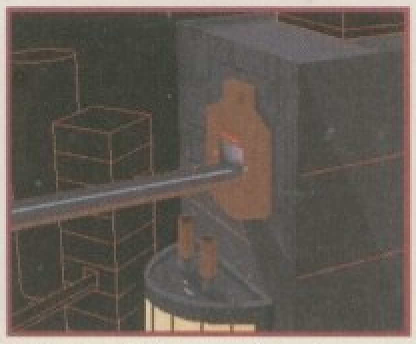
While finishing your masterpiece you'll realise that you could have rendered more of the skeleton image in wireframe, saving yourself a lot less work. Unfortunately, only experience will highlight these mistakes. When I designed the city image it was only later in the painting stage that I realised I could have pre-rendered the openings to the buildings and the structures around them. Instead, realising it was too late I painstakingly, and time consumingly, drew these features in by hand, increasing design time from a few hours to a few days.

Object-oriented design

One of the great pluses when designing wireframe objects in Imagine or LightWave is that you can save the objects and then use them again in any other pictures you decide to create. For example, if you wanted to create a new and entirely different city scene from the one shown it would simply be a case of loading in the old city objects and tweaking them to fit the new design.



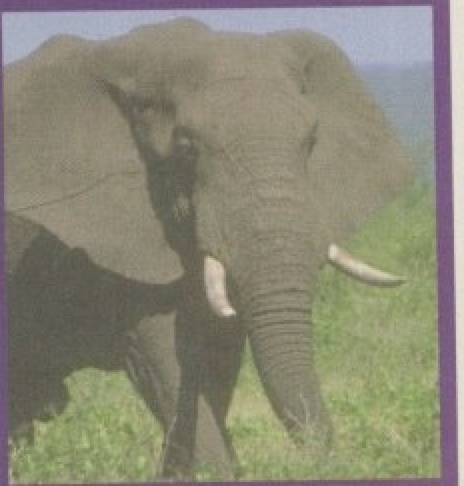
It may not look great but rendering in wireframe is quick and saves time at the paint package



With the wireframe render acting as a skeleton, building up a visually accurate scene is easy

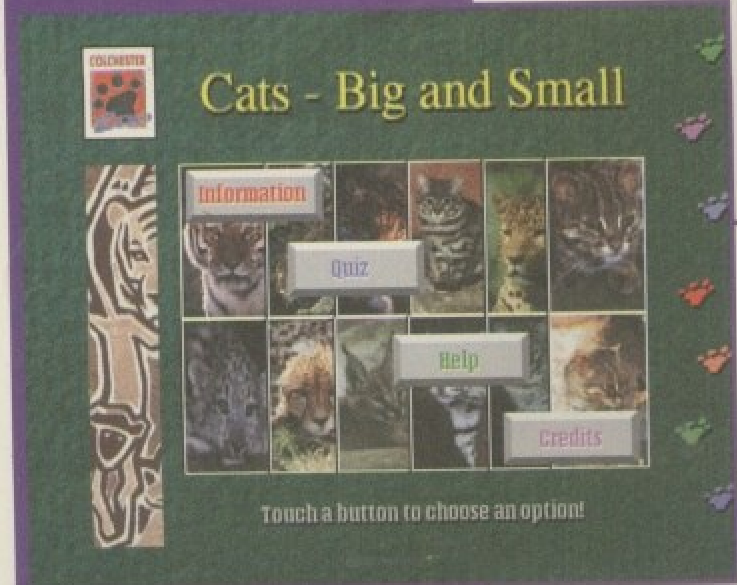


The finished picture. And who would have believed it all began in Imagine?



Zoo TU

Ben Vost takes a trip back to Colchester Zoo to see how CD32s are helping to educate zoo visitors





Colchester zoo plays host to four interactive tutorials based around CD32 technology

Without wishing to bore you with too much of my life history, I used to go to Colchester zoo on a fairly regular basis, being a local resident. So I looked forward to revisiting one of my old haunts when I was sent from sunny Macclesfield to even sunnier Colchester this week.

After a long, hot train journey I was as pleased as punch to be greeted by Alex Burr, head of PR for the zoo. She told me that the Discovery centres dotted around the zoo containing the CD32 setups were already a great success with both the children they were aimed at and their accompanying parents or educators. The system is simple to use and attractive, although Ms Burr herself confesses to be baffled by all the new technology. But as she said, the people the information is aimed at are as familiar with a graphical user interface as they are with a television set.

The discovery centre systems consist of a standard CD32, Philips monitor with a touchscreen, and some software designed using Optonica's reknowned CD authoring system which has been written by Premier Vision. The software consists of an information section, quiz section and the usual help and credits screens. Even with CDXL video clips (which look great) and high-quality sound samples, the entire program and data take less than 100Mb of CD space, allowing for further expansion at a later date.

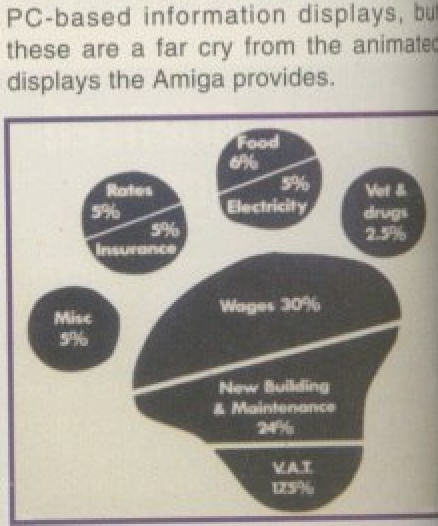




Andy's favourite animal at the zoo was one of a pair of Orangutans with whom he shared a natural affinity

When I visited the zoo it was still working with a beta version of the software which had yet to be pressed onto a standard CD, and although there appeared to be little wrong with the version I saw, apart from some timing problems and the occasional glitch with the sound, Premier Vision should have replaced it with a final version by the time you read this.

Ms Burr praised the CD32 setup as being very good value for money and quite robust considering the number of people using the machines. In addition to the four CD32s the zoo runs at the moment, they also have a couple of PC-based information displays, but these are a far cry from the animated displays the Amiga provides.



The zoo provides a comprehensive breakdown of where your entrance fee goes

CD animals play



At present there are no plans to convert the software into a mass market program, but with the addition of other types of animals I think the whole thing would make an excellent tool for education and general interest. With the big and small cats that Premier Vision have covered with this release of the CD, there is only about 100Mb of the total disc space used.

Bung on a section about monkeys and apes, which are probably the most interesting animals short of dinosaurs for children, and one about the birds held in captivity at Colchester zoo, and Premier Vision could be onto a best-selling title. The added publicity for Colchester zoo couldn't hurt takings on the gate as people would flock to see the birds, monkeys and cats they have just learnt about on the CD-ROM.

Animal magic

- Zoos worldwide receive more than 600,000,000 people through their gates every year, or roughly 10 per cent of the world's population.

- Colchester Zoo is a breeding centre for over 150 rare and endangered species.

- 'From the standpoint of animal welfare, Colchester zoo is a world leader.' –

Trevor Poole BSc PhD, Animal Welfare scientist.

COLCHESTER Zoo ...A CONSERVATION CENTRE

- Colchester zoo makes the animals actively seek out their food rather than just handing it to them on a plate, so to speak. For instance, the Asian fishing cat has fish put into the pools in its enclosure so that it is encouraged to behave as it would in the wild.

- The CD32 machines have been set up as part of Colchester Zoo's Year of the Cat which was opened earlier this year by Chris Packham, the presenter of the BBC's Really Wild Show.

- Colchester zoo has an adoption scheme which is open to individuals and organisations. For various levels of donation you are rewarded with an adoption certificate and free entries to the zoo, and for donations of more than £50 the zoo will put up a plaque on the adopted animal's enclosure with your name on it.

- Over 50 endangered species are now covered by an international scheme called the Species Survival Plan, or SSP. Some of the animals covered by the SSP that can be seen at Colchester Zoo include the Lion Tailed Macaque, Mandrill, Golden Lion Tamarin, Snow Leopard and the Siberian Tiger.

- Some of the animals at Colchester zoo live in semi-liberty. This means they are free to roam around an enclosed area, mixing with visitors to the zoo.

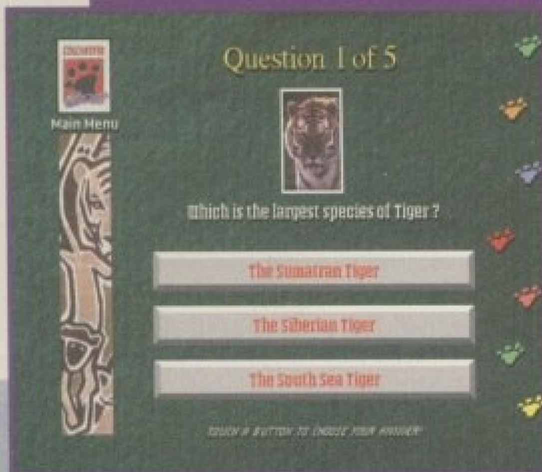




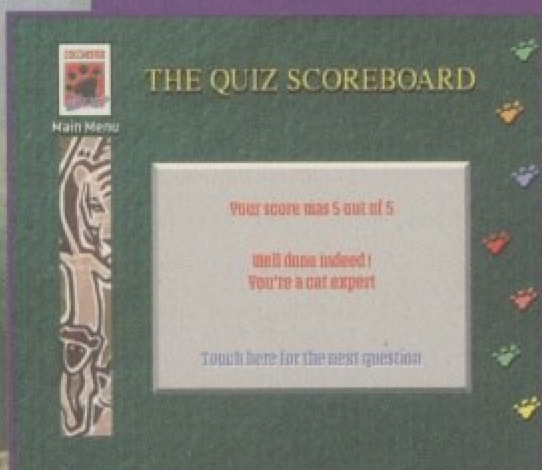
When you click on the Quiz button on the main screen, you get to pick which sort of cat you want to be quizzed on



...I picked 'Big Cats' and now I am presented with a scrollable list of types of big cat



... Tiger, I think. OK, now to answer the questions. If you give a wrong answer a voice gives you the correct reply



Yes, I am indeed a cat expert as the screen kindly informs me. Well, I had a look at the tiger, that counts, doesn't it?

Dual in the crown

The cut-throat market in CD drives has led to some of the best bargains ever. Gareth Lofthouse reviews an Aiwa drive that could set a new standard in value for money

According to the market research undertaken for *Amiga Computing*, the peripheral that most readers intend to buy in the near future is a CD-ROM drive. Given the tumbling prices and the increase in quality, speed and facilities that recently released models offer, this should come as no surprise.

The competition has been very tight, with dual-speed drives coming in as low as £200, while the latest and fastest quads have fallen to around £399. Even more surprising was the appearance of a seven disc changer for under £400 in the form of the Nakamichi MBR-7.

Until earlier this year A600 and A1200 owners were limited in the choices they could make as far CD-ROM was concerned, but thanks to the release of Hi-Soft's Squirrel it's now possible for them to connect any SCSI CD drive via the PCMCIA port on the side of their machine. Squirrels are now being bundled with popular drives by the usual major distributors.



BEST BARGAINS

The most attractive bargains so far have probably been the Power Computing CD drives which have boasted speed and facilities, while managing to pip their opponents in the price stakes. Now, however, there's a new kid in town.

The Aiwa ACD-300 is available for £169, and even before we start looking at its efficiency in operation, one thing is already completely clear: this is the best looking computer CD drive I've seen, regardless of price.

With a modestly proportioned case featuring some unusually stylish design details, the unit's metallic sturdiness is matched by an equal splash of aesthetic flair. The Aiwa's most instantly surprising and unusual feature, however, is the large LCD display illuminated on the drive's facia. If it were just a gimmick at least it would give the ACD-300 a distinctive look, but this type of display has been used for years on audio CD players and can prove equally helpful on a computer CD drive.

The drive can operate using either music or computer discs, and it will indicate each CD type on the small screen. An appealing innovation featured on the unit is the fact that the LCD indicates the drive's SCSI ID number and whether or not the unit is terminated. By doing this, Aiwa have rightly identified two major oversights made by beginners connecting drives.

A further unusual feature of the Aiwa's facia is the presence of standard audio controls like play and skip-track buttons, allowing the CD to be played like any normal audio unit. The LCD screen indicates track selections in addition to repeat and shuffle functions which come as further music-playing features.

Turning to the back of the unit reveals a more predictable array of ports and dip-switches. SCSI ID is selected by adjusting a switch with the supplied screwdrive, which is a rather more fiddly method than that found with more modern push-button systems. Still, at least it can be adjusted externally, as can the internal termination status.

Unrivalled as it is in both design and features, the ACD 300 already looks like the new benchmark for bargain CD drives. However, 1st Computer Centre will also throw in a Squirrel with full manual and support software at a reduced price of £40, and there will also be a voucher reducing £5 off the worthy Prima CD reviewed a few months ago.

AMIGA BLUE CHIP AWARD

Problems with parity

In addition to previously discussed SCSI chain problems, here's a new one. On the back of the Aiwa there are a number of dip switches, one of which is a toggle to activate the parity checker. The manual recommends that this is generally left on so that the CD can check that data is being transferred down the SCSI chain correctly.

However, the good old Amiga has no need for this facility. In fact, some Amigas will not work with Parity checking on, so if you're having any problems it's worth switching this toggle off.

Verdict

It really is surprising to see a drive that looks so good and boasts so many extras appearing at such a low price. They say you shouldn't look a gift horse in the mouth, but having done so my suspicion that quality might have been compromised was thankfully proven unfounded.

The long-term reliability of a product is always a matter of uncertainty at this stage, but at least the drive is as sound in construction and efficient in use as the best of its rivals.

Its additional facilities, far from being attractive gimmicks, are things we would like to see appearing on other drives as standard. It is particularly pleasing to think the unit is lightweight enough to be combined with headphones or mini-speakers and used as a fairly portable sound system.

Once again, it seems Amiga users are in line for a high-quality peripheral at an extremely tantalising price. Congratulations to Aiwa – they've set the new standard.

SYSTEM ESSENTIALS

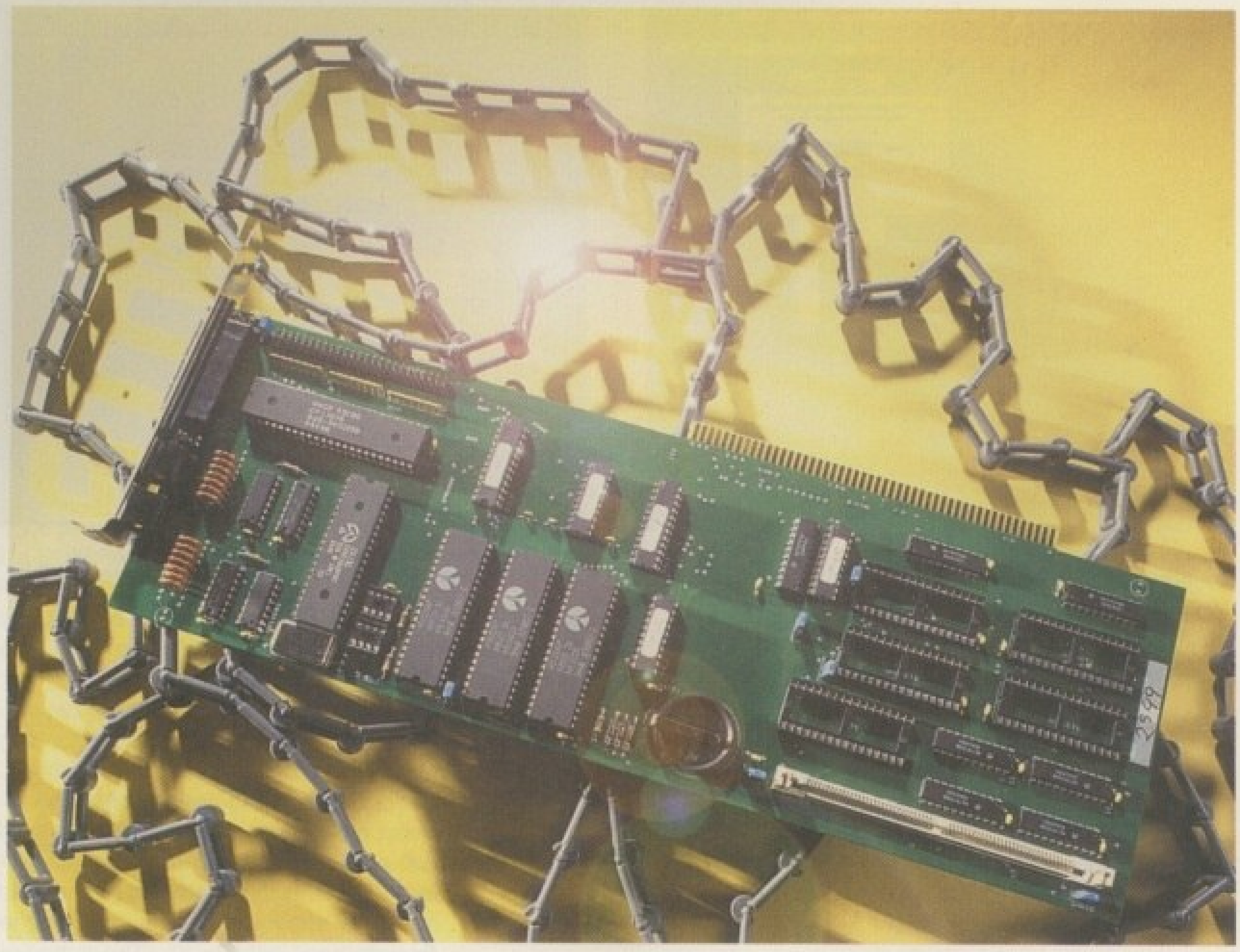
RED = Essential **BLACK** = Recommended

SCSI interface

The bottom line

Product: Aiwa ACD-300
Price: £169
Supplier: 1st Computer Centre
Tel: 01132 319444

Ease of use	**9**
Implementation	**9**
Value for money	**10**
Overall	**9**



Quick change artiste

Ben Vost examines the intricacies of disguising your Amiga as another machine

In the early days of the Amiga there was a piece of software called Transformer. It was clunky and difficult to use, but it enabled your Amiga to run programs for IBM compatible machines. You could wait for a minute for the (MDA) screen to refresh, particularly on an A500.

Following on its heels came Readysoft's AMax cartridge which plugged into the back of your A500 and gave you a mono Macintosh instead of your nice colour Amiga. If you wanted to use floppy disks, you still had to buy an Apple external floppy drive and an expensive interface to hook it up to your Amiga, or use the oddly-formatted AMax disks which a Mac and Amiga could both read, but which held even less information than a standard Mac low-density floppy.

But things moved on. We got Commodore's XT and AT bridgeboards, only marginally faster than Transformer was, but they offered opportunities that PCs and Macintoshes of the day couldn't – the ability to emulate other machines. Eventually, when the 486 was all the rage, Commodore brought out a 386 emulator and a German company, Vortex, brought out a competitor 386 board and a pseudo 486 board. I say pseudo because the 486 chip used for the board was a halfway house between a 386 and a 486 called the 486slc. It had the code functions of a 486, but the 16-bit accessing of a 386.

ANNOUNCEMENTS

At about the same time the AMax IV and Emplant boards were announced. Emplant gained some incredulous looks from prospective buyers who were boldly informed that Emplant would do everything they ever needed to do, emulate all sorts of machines, including the Sega Megadrive and Nintendo, and probably even make tea for you. The reality was maybe a little less exciting, but nonetheless valuable as Emplant remains the only solution for a lot of people's emulation needs and Jim Drew had proven a dogged pursuer of the ultimate emulation.

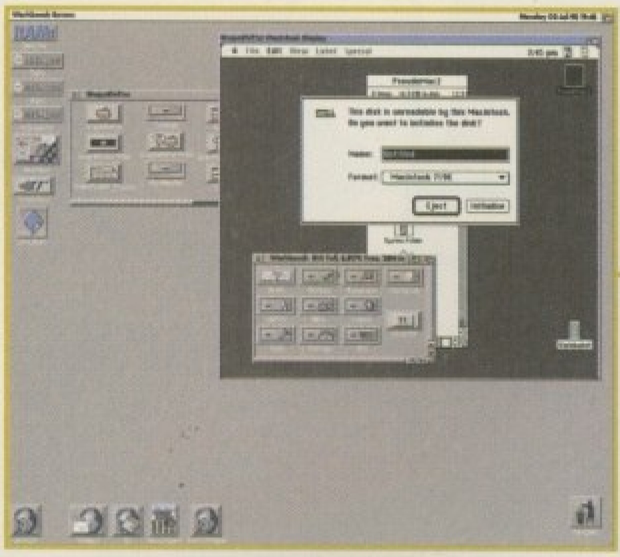
So today's bumper crop of emulators, and the focus for this article, will obviously have to include the Emplant board, now with a preliminary PC emulation module also in place. But what of the others? Vortex boards can't be bought in this country any longer, and Commodore's own brand can only be bought second-hand. As for AMax, although it is available in the States, it doesn't seem to have gained much favour on this side of the pond, so it won't be featured in this piece.

However, there are two other contenders on the scene, one of which harks back to its ancestor, Transformer.

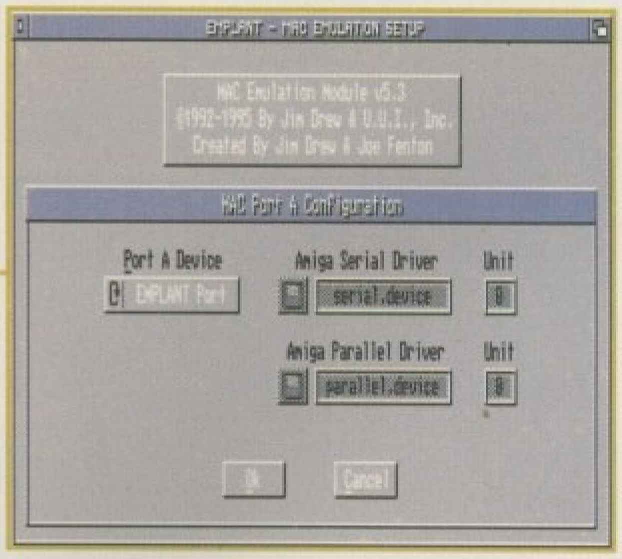
PCTask, Chris Hames' software-only PC emulator, or to be more precise, 80286 emulator, is now up to version 3.11. It first emerged about two or three years ago and worked quite well even then, as a text-only PC emulator goes. But now,



Both Shapeshifter and Emplant are able to run a wide range of Mac software like Quark XPress and Photoshop, and games like Solitaire and even Maelstrom



Shapeshifter will even run on your Workbench screen, only in mono though



Both Mac emulators offer serial and parallel port emulation, but only Emplant actually has Mac serial ports

PCTask even supports VGA screenmodes with support for AGA and RTG graphics cards supplying the colours required for VGA. You can even run Windows under PCTask, if you are willing to spend between three and four hours installing the package.

I'm not kidding, the process which is relatively painless on even the most modestly equipped PC becomes a Sisyphian torture on an Amiga. The helpful note in the readme file about copying all the disks onto your PC hard drive first of all should be well noted for any of you out there that hate reading documentation.

There are a variety of versions of the PCTask executable which get installed onto your machine. There are two versions for 68000-based machines and two for machines equipped with faster processors. The two versions differ only in the amount of RAM they use. The normal version can be used on a machine with only 1Mb of RAM (although it will be next to useless on a machine of this spec), but the turbo version can take as much as 8Mb of RAM, and that's before you allocate any RAM to the PC.

PARTITIONS

As with all the emulators mentioned on these pages, PCTask allows you to choose a dedicated partition or hard drive for use as a PC or Mac-formatted disk or what is known as a hardfile which looks to the Amiga like one enormous file, but looks just like a hard drive to the PC or Mac you are emulating.

The former method results in much faster seek and transfer times but requires you to have a spare hard drive handy or a partition going spare on your current one. Now, I don't know about you, but I've certainly never had a hard drive just hanging around with nothing to do on my machine, so I usually choose to use a hardfile.

For all the emulators covered here, this is a painless process initiated by you giving a filename and path for the hardfile and then stating the size you wish the Pseudo hard drive to be. The software then sits down and creates a file that size on your hard drive which will then be used for a hard drive under the emulation. For PCTask you can also set up the various screen mode emulations needed for CGA, EGA and VGA graphics modes, assigning the most appropriate screenmode to resolutions required by the PC.

> Emplant gained some incredulous looks from prospective buyers who were boldly informed that Emplant would do everything they ever needed to do

PCTask comes with quite a comprehensive manual and some support software to allow you to use your Amiga's CD-ROM for the PC. But please be aware – PCTask won't run Doom on your Amiga at any playable speed. It's unlikely that you'll even get a satisfactory game of Wolfenstein out of it. Coupled with the fact that it will only emulate a 286, PCTask will also only emulate motherboard sound for a PC, unlike Emplant which offers Soundblaster emulation, limiting its potential for games players out there.

Really, the place where it finds most favour is with students who are possibly using a DOS-based package on their course and would like to run it from home at little cost, no matter what the speed deficits are. ShapeShifter is a shareware Macintosh emulator that has, in the process of writing this article, been upgraded from version 2 to 3.

It now offers the user the ability to hook his or her Pseudo Macintosh up to a TCP/IP network and pretty much anything else a Mac owner would expect to be able to do, with the exception of virtual memory. Christian Bauer, Shapeshifter's author, says that virtual memory is out of the loop at the moment as far as future developments go, but other than this fly in the ointment, Shapeshifter is certainly a cream I'd like to spread on the face of my Amiga.

It does take a bit of doing though. Firstly, you will need a ROM image from a Macintosh. Unlike the Emplant board which uses really old Mac ROMs most people will probably have thrown out about four years ago, Shapeshifter makes use of the latest 512k and 1Mb ROMs used by Quadras, Powerbooks and LCs.

Next up you will need a copy of the Macintosh operating system software called System. I've run Shapeshifter using System 7.1 and I recently upgraded to System 7.5, both of which are extremely stable once installed. But installing the system software can be a bit of a trial. It doesn't take the hours that the installation of Windows does on PCTask, but it does crash your machine with monotonous and frustrating regularity.

My advice is to boot from the DiskTools disk – you'll need to anyway in order to format your partition or hardfile. Once formatted, copy the entire contents of the DiskTools disk onto your new hard drive. Eject the floppy and restart the Mac. You should boot up just fine from the hard drive. If you are lucky enough to have a CD-ROM and you have registered Shapeshifter with its author, you should be able to install a full version of System 7 from the CD.

By the way, the unregistered version of ShapeShifter won't allow you to use a SCSI device like a CD-ROM, SyQuest or scanner, or a hard drive partition, so it is well worth the $40 (50DM) registration fee if only to get the speed up from using a partition as opposed to a hardfile (it accelerates hard disk access by about a factor of five).

Once you have got ShapeShifter up and running, what can you run on it? Well, unlike any software-based PC emulator, the Amiga shares a lot in common with a Macintosh, most importantly they use the same CPU – the 680x0 range from Motorola. This means there is only a small speed decrease emulating a Macintosh on an Amiga because all that really needs emulating are calls to the hardware that a Mac emulator doesn't have.

In fact, on my machine, an A3000T with a Picasso card, my Mac emulator is actually faster than the Mac I use at work, even though it is based upon exactly the same processor – a 25MHz 68030. Thanks to the Picasso card it also runs at a much higher resolution than the paltry 512x384 or 640x480 resolutions achievable on my nasty little LCIII at the office.

Now that we've exhausted the possibilities for PC and Mac emulation in software, let's turn to the aforementioned Emplant card. With the ability to emulate 586

Crossed lines

It's all very well to have another machine emulated on your Amiga, but unless you can have access to the files you create under emulation on your Amiga, the whole process is somewhat limited. Fortunately, the creators of all three solutions have foreseen this problem and arranged differing methods of enabling the Amiga user to get at his PC or Mac's files.

ShapeShifter uses a Mac-Handler file which sits in your L: directory, and what looks like a DOSDriver or mountlist which automatically selects the boot device for your Mac and lets you access it from Workbench or Shell, etc. Emplant offers a file transfer program for its Mac Emulation, but the PC side of things is a bit lacking (early days yet though). PCTask offers the user a pair of DOS commands to copy files to and from the Amiga side of things.

That's my emulator you're emulating!

A piece of information that I can pass on to you, from Blittersoft, is the fact that Christian Bauer's Shapeshifter is a rip off of the Emplant software according to the team at Utilities Unlimited – the manufacturers of the Emplant board. Whether this means that Herr Bauer's software will soon no longer be available owing to a court case is not clear, but make the most of it while it's there.

(otherwise known as Pentium) code, Emplant covers both the Mac and PC in its currently available emulations. Others are supposedly forthcoming, but I wouldn't hold your breath as I believe the team at Utilities Unlimited would like to get these two emulations as close to perfect as possible before announcing any new ones.

Let's have a look at the more established Mac side of Emplant first. Emplant certainly offers one definite benefit over ShapeShifter which is that it comes with a pair of serial ports on the back of at least one of the versions of the board. These are necessary for use with AppleTalk, the built-in networking protocol for every Mac. It also means you can have dedicated peripherals for use on the Mac side of your schizophrenic machine while you carry on using the Amiga side of things. The deluxe version of the card (and I can't really see anybody buying any other version if they have the money) offers both the serial ports and a dedicated SCSI interface.

ROUGH EDGES

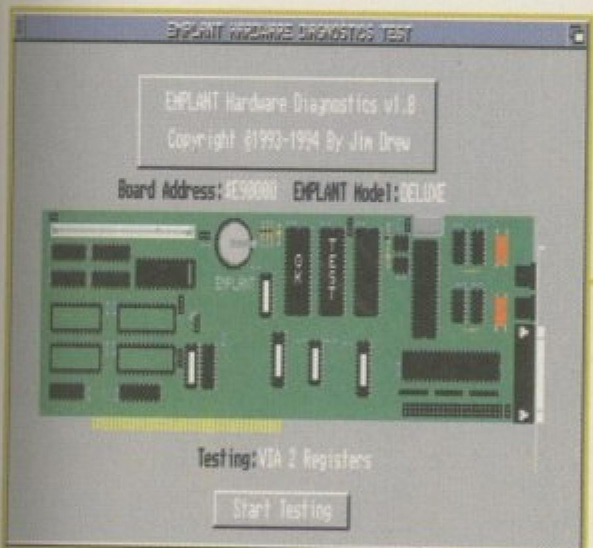
For a product that has been so long in development, Emplant is remarkably rough around the edges. Jim Drew insists on sticking to the outdated PowerWindows for the creation of his interfaces for both the Mac and PC emulations. This means you need to have a standard PAL and NTSC driver sin your DEVS: monitors drawer. These interfaces also don't conform to Style Guide standards with non Style Guide cycle gadgets and requesters.

When you install the software there are even a couple of programs that don't do anything in the Emplant drawer. And although it might seem like a good idea at first to use old 128k Mac ROMs, the fact of the matter is that you're more likely to be able to find 256k, 512k and 1Mb ROMs than you are old 128k ones.

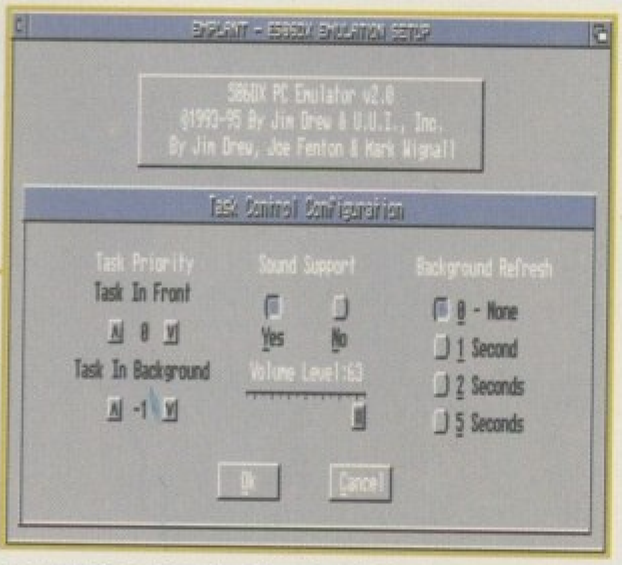
Emplant gets around the fact that these old ROMs can't access high density drives in software. The only difference in operation between Emplant and ShapeShifter once you have started the software running is that there is an Emplant startup logo on your Mac screen instead of the happy Mac icon. Unlike both PCTask and ShapeShifter, Emplant doesn't offer the opportunity to run an emulation in a window on a standard Amiga public screen. Also unlike either of the two software emulators, Emplant needs assigns to tell it where hardfiles are located.

To conclude then, Mac emulation on the Amiga is relatively painless. The shareware and hardware solutions both have something to offer, indeed if you don't have a high density drive you will need to buy Emplant as Shapeshifter doesn't support standard Macintosh 800k disks at all. But when it comes down to it, there isn't much difference between them.

Both will run games like Marathon, Maelstrom and Vortex, along with serious applications like QuarkXPress (the software we use to lay out this magazine), Photoshop and Illustrator – memory allowing, and at a fairly similar rate to a kosher Mac. But PC emulation is a different kettle of fish. Unless you have the patience and determination of Job and you don't mind having Wolfenstein turned into a strategy game, then get a dedicated bridgeboard which has an 80x86 CPU on it. It will be a lot less frsutrating than having to deal with a software emulation of the chip.



Emplant has a diagnostic tool so that you can pinpoint any hardware problems



PC emulation is tough without a 80x86 processor, but Emplant and PC-Task let you set their emulation's priority

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

Kickstart 1.2
512k RAM
MS-DOS software
68030+
8Mb+ RAM
HD floppy drive
Hard drive

Product: PCTask v3.11
Supplier: Emerald Creative Technology
Price: £59.95
Tel: 0181-715 8866

Ease of use	**6**
Implementation	**8**
Value for money	**7**
Overall	**7**

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

Kickstart 2.04
2Mb FAST RAM
Mac OS/MS-DOS software
Mac ROM
Hard drive
68020+
8Mb+ RAM
HD floppy drive
AGA/RTG card

Product: Emplant Deluxe
Supplier: Blittersoft
Price: £399 (+£99 for PC emulation)
Tel: 01908 261466

Ease of use	**7**
Implementation	**7**
Value for money	**8**
Overall	**7**

SYSTEM ESSENTIALS

RED = Essential **BLACK** = Recommended

Workbench 2.1
4Mb RAM
Mac OS software
Mac ROM
68020+
8Mb+ RAM
HD floppy drive
Hard drive
RTG graphics card

Product: ShapeShifter v 3.0b
Supplier: Aminet (misc/emu directory)
Price: $40 or 50DM
E-mail: cbauer@mzdmza.zdv.uni-mainz.de

Ease of use	**6**
Implementation	**8**
Value for money	**7**
Overall	**7**

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offers NetBSD 1.0 a full featured UNIX-Like operating system with both sources and binaries for the Amiga, i386, Sun 3 and other architectures. Go networking with a large selection of supplied networking tools. Other supplied packages include a binary release of the X window system (X11R6) for the Amiga, with many additional clients, and packages such as pearl, emacs, games, dual programs, and many megabytes of important text files, such as RFC's and FAQ's. A complete installation guide is available on the CD. There are also some AmigaDOS internet utils, such as clients for AmiTCP and Envoy.

CD130 INTERNET INFO £19.99

Contains a sample of the wealth of information that is available on the Internet. The Internet is the computer network linking thousands of universities, research labs, and high technology companies all over the world. You get 17,000 documents about computers and networks; Check it out before you add to your phone bills!

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Raytracing - a fascinating area of the computer graphics. Pictures from the computer, perfectly rendered fascinates people all over the world. A real artist of raytracing is Tobias J. Richter from Germany, whose detailed objects all who use them. Especially his space ships of famous science fiction films are used to demonstrate the capabilities of a raytracing program. Until now it was difficult to acquire these objects in order to create your own scenes or animations. contains mainly objects created by Tobias J. Richter, together with surface textures

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LIGHT ROM - Contains 650 Mb of 3d objects, images, images sequences, scene files, surface attributes, bumb maps, and textures for use with Lightwave. An invaluable resource for all users.

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From strength

After taking a look at the Amiga's use in the pop promo and film industries, Adam Phillips reports on how the Amiga is infiltrating the advertising and TV worlds

They unleashed the carrot top Chris Evans on an unsuspecting British public who had just crawled wearily out of bed, they gave us that nasal Mancunian Terry Christian that everyone loves to hate, they unveiled Gaby Roslin, the charismatic early morning bombshell who has middle-aged men dribbling into their cornflakes, and they relaunched Keith Chegwin's career after years of seemingly wandering in the media wilderness.

The company is Planet 24. Their motto – make it big, make it bold, make it sell. Never far from controversy, the production house has spawned a host of top-rating shows with its philosophy – The Big Breakfast, The Word, The Weekend Show and Delicious.





Chris Evans – he's moved on now to Radio 1's morning show but he played a vital role in establishing Planet 24's The Big Breakfast as the leader in breakfast television with his sardonic wit, silver tongue and nerdish-but-hip looks

Planet 24 aren't ones to rest on their laurels either – Gaytime TV, the BBC2 gay and lesbian show, and Hotel Babylon, a music and lifestyle program to be broadcast across Europe, are just two productions that are on your screens now or winging their way to a living room near you soon.

An offspring of 24 Hour Productions, Planet 24 has experienced an almost meteoric rise to fame and infamy in its three year history. The company's kingpins – executive producer, Charlie Parsons, Waheed Alli, head of business affairs, and one Bob Geldof, rock star, Live Aid guru and chairman of the company – have produced a mould-breaking production house that wasn't formed by Oxbridge-educated white, middle-class academia but from young blood, fresh talent and enthusiasm.

Situated in a towering building block in London's Docklands, the company's

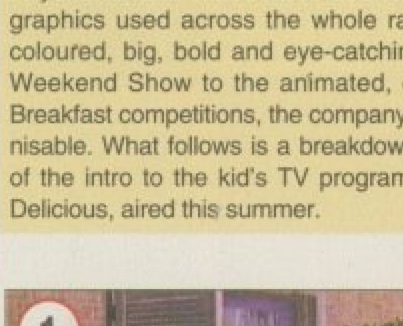
Advice

The idea of using LightWave all day for a top-rated production company sounds like a dream job for most people. The question though is how do you get out of the living room into the editing suite? Gilbert offers some advice for budding animators: "If you're going to university or art college, get as much out of the computer as you can to impress people.

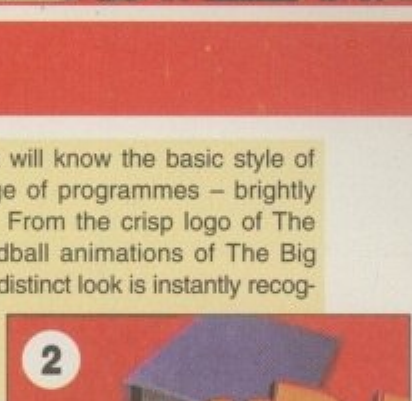
"At uni, it's the ideal time to really be creative and show off your individual talents – make sure you experiment as much as you can while studying."

The big style

Anyone familiar with Planet 24's work will know the basic style of graphics used across the whole range of programmes – brightly coloured, big, bold and eye-catching. From the crisp logo of The Weekend Show to the animated, oddball animations of The Big Breakfast competitions, the company's distinct look is instantly recognisable. What follows is a breakdown of the intro to the kid's TV program, Delicious, aired this summer.



The whole intro is linked to a kid's bedroom. The first shot shows the shutters to the room flying open as we move inside. Note the static produced by another company and not on LightWave



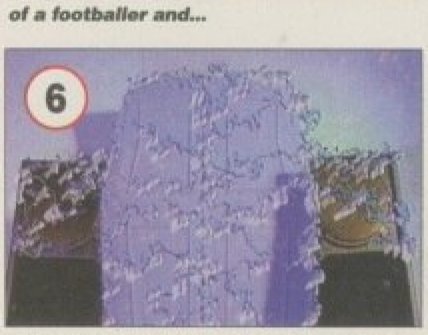
Throughout the introduction, LightWave-rendered hyperactive logos shoot, bend and bounce all over the screen. In this instance, the word Thud! is used as a wipe between shoots – notice the different image in the letter D. This was achieved by having two different background colours – for the speaker image, blue, and for the inside of the D, green. The images were then two keyed in by an out-of-house facility



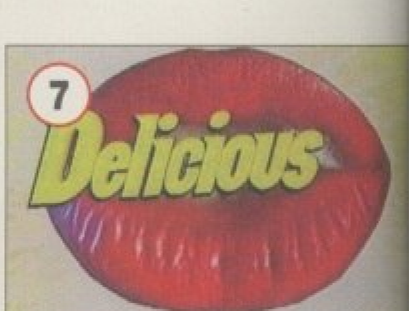
Halfway through the intro, one of the most impressive morphs occurs. Using Morph Plus, Gilbert takes a bronze statue of a footballer and...



...morphs it (note the stadium background)...



Towards the end, a cupboard begins to morph as the doors bulge to 'let' the program out. Static flares up all over the screen



Lips appear and say 'Delicious.' Gilbert cut the lips out in Morph with the cookie cut option. He then put it through Multi-frame to make the lips more bulbous.

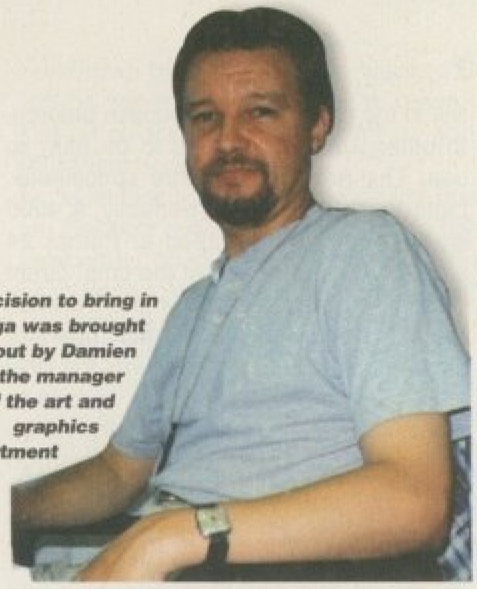
to strength

offices are a hive of activity. The red carpeted reception with monitors showing that morning's Big Breakfast belies the buzz of business on the upper floors.

Researchers sit hunched over their phones, writers discuss scripts over caffeine-saturated coffee, VTR operators hunt for that elusive shot in the mausoleum of a video library, Mac operators draw up the latest logo design and Grant Gilbert, a 22-year old graphic artist, sits in a darkened room sans air conditioning, oblivious to it all, eyes focused on the Amiga screen as he designs tomorrow morning's logo for The Big Breakfast. The clock is ticking. Loudly.

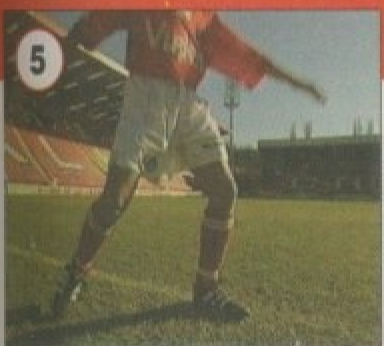
The decision to bring in the Amiga as a vital part of the production process was brought about by the manager of the art and graphics department, Damien Wailing. It is common for production companies to have the trimmings of program making such as graphics created out-of-house by smaller, more specialist firms. The cost is high though, and with Planet 24's massive graphics output, it only seemed right to bring in a machine that could do the job and cut costs dramatically in the process.

After hearing good things about the Amiga's graphics capabilities and that program, LightWave, Wailing contacted Premier Vision, the Amiga suppliers, and was shown a demo of the machine's talents. Because of the nature of the company's work, a computer was needed that could produce professional work in the minimum amount of time. On top of this, the system had to be up and running as quickly as possible and not become a weak

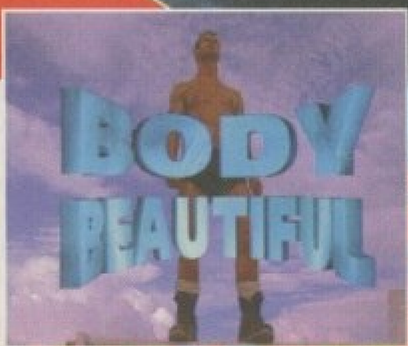


The decision to bring in the Amiga was brought about by Damien Wailing, the manager of the art and graphics department

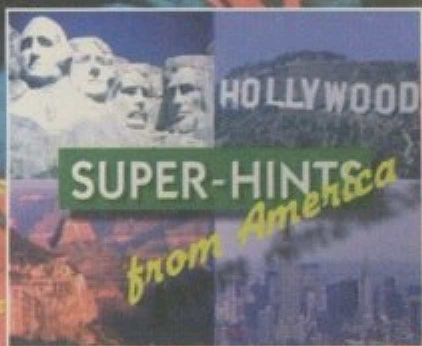




... into the final image of a real footballer as he's just about to kick a ball



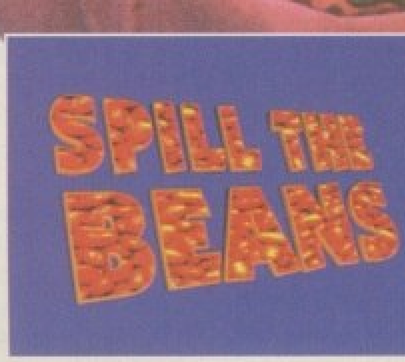
One of the title sheets to introduce a segment on Gaytime TV



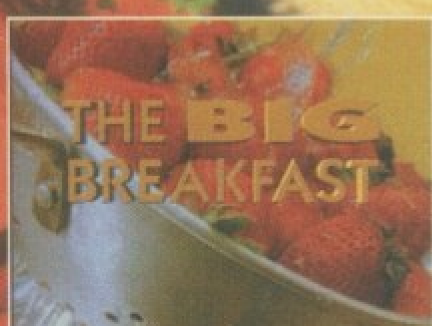
The Superhints section from the Big Breakfast is another title sheet to receive the LightWave treatment. The US collage was loaded into the background and then the text laid on afterwards



The typeface used here was created by Gilbert in a day – the end results can be seen on BBC1 in all their animated glory



One of the competition titles for The Big Breakfast. Note the background colour – the anim is taken from the Amiga, put onto Betacam SP and then the background footage is keyed in in the editing suite to create the final sequence, replacing the background colour



The Big Breakfast title with the background keyed in underneath

link in the chain of the production process. In other words, it needed to be easy to use. The Amiga and, more specifically, LightWave fitted the bill perfectly. A 4000 was bought and installed at Planet 24 shortly after the demo. At the time, Grant Gilbert, a graduate of Birmingham university, had been working as a Mac operator for a couple of months. He was the only artist available so Gilbert was chosen to master the Amiga and has ended up designing all the three dimensional graphics now seen across the range of Planet 24's programmes.

And did the Amiga save the company money as they had planned? Gilbert is adamant: "It will pay itself off in six months compared to the prices we would have paid outside."

RACE AGAINST TIME

Even with LightWave, though, Gilbert's job is by no means an easy one. Graphics are constantly changed, updated and altered from day to day, hour to hour, to suit a particular programme's needs. Take The Big Breakfast – new competitions crop up regularly, titles have new effects added to them and more. "This job is all to do with time and that's what we haven't got a lot of. You've got to bash the graphics out but you've got to know what you're doing" commented Gilbert.

Indeed, after being thrown in the deep end, he's had four months to learn the ins and outs of the Amiga and the results speak for themselves (see panels). The machine itself is 4000/040 with a Warp Engine plus a broad spectrum of Amiga wares – LightWave, Morph Plus, Photogenics, AdPro, Brilliance, MultiLayer, MultiFrame and a PARcard form the main bulk of constantly used software, with plans to buy TV Paint and a 24-bit graphics card at some point in the near future.

Gilbert has a very definite process for laying out any graphics: "Before sitting down with the computer, I get a piece of paper and a pencil and plan it first... at the end of the day, you can always tell if something has been solely designed on a computer – it usually looks tacky."

From there, the drawn image is scanned into a Macintosh and then ported over to LightWave's modeller in the background. Gilbert then 'traces' round the drawn image and creates an object normally in the form of a logo. Once done, it's in to LightWave's layout to create the animation. After putting the finished frames onto the PARcard, the final anim is recorded onto Betacam SP and given to the relevant editor to cut into a particular program.

On some occasions, usually for The Big Breakfast, Gilbert takes a camera crew out on location if live footage is specifically needed as a backdrop for the anim, shoots what he needs, and gives that to the editors as well. The process is simple but the deadlines turn it into a constant race against time: "I often do a whole sequence in a single day."

Gilbert is well aware of the addictiveness of using LightWave: "I've been completely absorbed in the package all evening...there seem to be no limits to the package – you can do what you like." In other words, the Amiga has been a roaring success. Gilbert commented: "When I first heard about the plans f[or] an Amiga, I thought it was a game machine. I'm not the only one... some my colleagues don't realise what it ca[n] do, see the end results and then sa[y] 'can you do this for me?'"

So much in demand is the machin[e] that Gilbert is hoping to have anothe[r] Amiga installed at some point in th[e] future to deal with massive turnover work and requests.

Program profile

The Word – Channel 4, deceased



The show that launched a thousand letters of complaint during its five year run, The Word closed this year. The ultimate in tabloid television, its host Terry Christian and his various co-presenters (including Amanda de Cadenet and Dani Behr) have interviewed a host of top celebs over the years, given various fledgling bands such as Nirvana and Take That their first European television appearance, and shocked/surprised their viewing audience with the likes of drinking your own vomit, showing what Mr Bobbit's damaged tool looks like now, and alternative quiz show segments about people's sexual past.

Delicious – ITV, new series under consideration

One of the recent additions to the Planet 24 camp, Delicious is a magazine show aimed at kids. Covering a variety of stories, features, interviews, trivia and gags, the show is billed as a complete reversal for normal kids' shows with hard hitting features, stories and more.

Gaytime TV – BBC2, Thursday 11.30pm

Always on the look-out for untapped markets and perhaps just a touch of controversy, Gaytime TV is a late-showing program covering all topics gay and lesbian. With segment titles such as Wish You Were Queer, Homos and Gardens, and Camp Countdown, the show is bound to raise eyebrows in certain quarters across the nation.

The Weekend Show – BBC1, Friday 7.30pm

Featuring Supermarket Sweep's Dale Winton as the host, the magazine-style show covers the more unusual and trivial happenings of the past week. From Jodie Foster commercials in Japan to parodies of the Maxwell trial, the program's note is distinctly tongue-in-cheek.

The Big Breakfast – Channel 4, Mon-Fri 7am

Some would say that this breakfast show broke the mould of early morning viewing. Chris Evans, Gaby Roslin, Paula Yates, Keith Chegwin and more have taken this Tiswas-like madhouse from the drawing board and turned it into an overnight success story after its launch in 1992.



While Evans and Yates may have left, the show still retains its cultish, fresh approach to the usually dreary subject of breakfast TV.

S/FX

One of Premier Vision's major jobs this year is their film S/FX work on a film called Grim. A horror movie detailing the goings on when a group of people accidentally unleash a demon while using a oujia board, requires said monster to force its way through solid matter and show victims in various stages of possession.

LightWave is being used extensively for nearly all the effects which include walls that bend out of shape as the creature forces its way through, the shining red eyes of the possessed, a magical amulet that sparks and flares with power and, in the final sequence, the monster turning into stone as sunlight hits its skin.

Test anims are underway already, with one scene where, as young woman paints her nails, the demon comes up through the floor and drags her down. The creature was filmed against a blue screen and the various effects are now being composited together on the computer.

Premier Vision's low-charging philosophy seems to have pleased potential clients, and contracts for special effects in two other films have already been secured. George Lucas – keep an eye on this team.

Moving on up

The offices of Premier Vision. It's one those work places that paints an idyl picture for serious Amiga enthusiasts eight 4000s with various additions soup up the hardware sit on desks ne to each other. LightWave gleams o from several of the monitors and sta busy themselves at the keyboards.

There is an atmosphere that on would normally associate with a produ tion company as clients come in to vie commissioned animated logos, a shown the company's range of De Alpha machines (Warthogs), and sp cial effects for films are laid out an

demonstrated to this interested writer.

Premier Vision have been one of the most successful companies to emerge from both the recession and the Amiga's downfall, relatively unscathed and, more importantly, with expansion on its agenda. Known to most Amiga users as the company that represents NewTek's LightWave, the three MDs running the business are David Walker, Andy Bishop and Andy Gould. In the last few months though, they have been involving themselves more and more in both film and television.

The project that began the production house ball rolling was a commercial for SNCF's Motorail. "We have an ad agency who work for us on the commercials side and all they do is publicise our high-end work to the film and television industry," explained Andy Bishop. "They wanted to show our work to a couple of other agencies as well and one of them wanted us for a client they had."

The company's brief was to produce a flat, cartoon-style, 20-second commercial for a slot on Channel 4. "When we animated it, we had a choice – we could either do it by hand and that would have taken two to three weeks longer, or do it in LightWave" said Bishop. "The question was how do you make LightWave seem flatter than it really is?"

TOO REALISTIC

The finished result took a week and a half to complete. On the first showing the client still wasn't happy with the toned down three dimensional look. "He said the rails were far too realistic looking – the concrete looked too much like concrete," stated Bishop. "He wanted it to look more plasticky and more hand drawn. So we made the concrete look gold and the rails look pure silver."

The end result was well received by representatives of the company and the commercial has been showing on Channel 4 now for the last two months. According to Motorail's research, the ad has had a resounding effect on direct sales and has cut down on sales made through travel agents – therefore making more money for the company by cutting out the middle man.

Following on from this success, the future is looking good for Premier Vision – there are already several film projects on the horizon and Bishop thinks he knows the reason why they have enough work to fill their busy schedule for the next year. "We charge what we feel is a fair price for the client. There are plenty of cases out in the industry of production companies charging a fortune for work that simply doesn't justify the price tag. Give people a fair price and they'll come back to you again."

With all this success hanging in the air, one would have perhaps thought that Bishop, Walker, Gould and the rest of their crew would be ready to buy as many Warthogs as possible (their own line of ultra-fast Dec Alpha machines)

> "The offices of Premier Vision. It's one of those work places that paints an idyllic picture for serious Amiga enthusiasts - eight 4000s with various additions to soup up the hardware sit on desks next to each other"

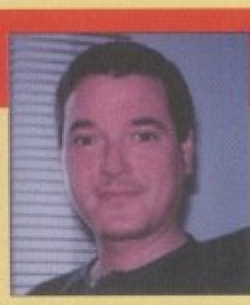
and a mountain of Pentium PCs, leaving the under powered Amiga licking its wounds under a rock somewhere. Fortunately this isn't the case. Bishop explains: "For pure rendering speed and as a LightWave station, the Dec Alpha is fantastic, but let's say you want to do 24-bit painting – on the PC, its range of 24-bit packages simply aren't as good TV Paint or even DPaint."

Multi-tasking is also a big selling point in Bishop's eyes and he's none too convinced by Windows '95: "Windows '95 is just beginning to catch up with the original Amiga Workbench, let alone the Workbench we're currently using."

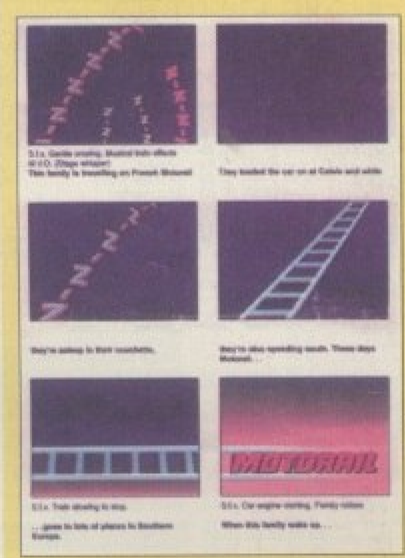
At the moment, he sees the Amiga's main downfall as speed but he is hoping that Escom will rectify this problem in the near future. Like Planet 24 though, Premier Vision know a good thing when they see it and the Amiga remains at the forefront of film and television technology.

That ad in full

What follows is a breakdown of the principal shots in the advert



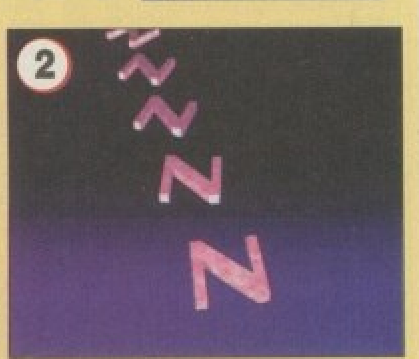
On the subject of the Amiga and PC in the production process. Andy Bishop: "Windows '95 is just beginning to catch up with the original Amiga Workbench, let alone the Workbench we're currently using."



Premier Vision started with the storyboard to knock the basic concept together and to have a reference point for the advert



The ad opens with a series of Zs flowing in all directions round the screen representing the sleeping family on the train. Each was done with bones and in separate scenes. Once done, they were put together in Multilayer to produce the final opening scene



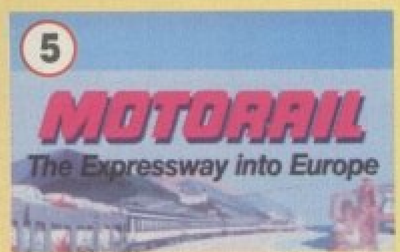
The Zs begin to line up, ready to be transformed into the rail track. The actual process was complex – Premier Vision morphed from the Z shape to the rail by turning the bottom and top of the Z into the rails and the middle section into the sleeper.



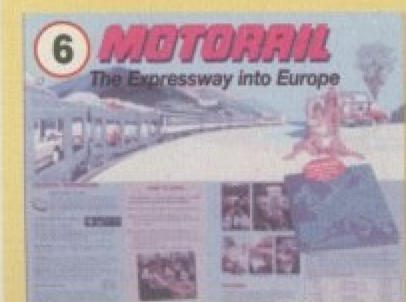
We shoot along the side of the rail track. Note the simplistic styling of the track to give it a more hand-drawn, flat effect



The Motorail logo comes steaming up the track, representing the train. As it comes to a stop, it suddenly zooms off representing the family disembarking the train in their car. For its first appearance the logo has a more three dimensional and rounded look



When it comes off, the Motorail logo undergoes a palette change and, as it drives onto the LightWave-rendered brochure, becomes more two dimensional to suit the flat nature of its background. The camera zooms out...



...to reveal the brochure in its entirety. The camera continues to pull out...



...revealing the final shot of water as it laps against the beach as the brochure closes and the telephone number fades up, telling viewers how to get more information. The water effect used at first was deemed too realistic by the client so Premier Vision came up with a more artificial look

A big thank you

£50 prize letter

I'd just like to say thanks very much for the MUI CoverDisk last month. I think people are getting fed up with receiving commercial software on the front of magazines because it will mean the eventual collapse of the Amiga software market. If a user can get a copy of a program (worth £299!) on the cover of a magazine, then he or she is hardly encouraged to spend money on further software because it might be similarly devalued.

Surely the same system applied to full games on CoverDisks can be applied to serious software too? Secondly, I think that putting registered shareware on the front of *Amiga Computing* encourages shareware authors to further develop their program, and I'm sure they appreciate whatever cash you pay them as shareware is not exactly a good way of making money.

Alex Dervlin, Bournemouth

Alex, you've put your finger right on the heart of the matter. Just as software piracy is killing the Amiga, so too is this attitude towards serious software. Unfortunately, while some Amiga users are enlightened souls, the majority just see that there is something worth cash on the cover and buy the magazine regardless. At *Amiga Computing* we are trying to break out of this syndrome, but you can appreciate that it is difficult because of the reason I just mentioned.

Having said that, we will be running more registered shareware CoverDisks in the future which, as you say, is a valuable source of income for shareware authors. Finally, regarding your comments on ELSPA's recommendation on full-price CoverDisk-mounted games, unfortunately, there is no similar organisation for serious software publishers on the Amiga.



Your views and questions aired and answered by our man of letters, Ezra Surf

Second-hand virus

I am a new subscriber to your excellent magazine and find it particularly helpful to people like myself, who are relatively new to the Amiga.

My local dealer advised against upgrading my A500 and suggested I might try to buy an A1200, so I advertised and was soon the proud possessor of a basic machine which I set to work upgrading.

Firstly, I bought a second floppy drive, then an IDE 85Mb hard disk (I know I should have bought a bigger one but I couldn't afford it!), and finally a 2Mb trapdoor expansion with a clock. I got everything installed and then my problems began!

Without wishing to bore you with all the gory details, I was having problems getting all manner of things to run correctly; I am not a stupid man and quickly realised something was wrong that I didn't know how to put right. After referring to an online guide to Workbench, I quickly decided that I had a dreaded virus.

By this time I knew a lot more about how everything worked, so I wiped the hard drive and re-installed everything from scratch using a fresh set of Workbench disks. I also put a virus checker into my WBStartup drawer to find the little swine and kill it – it had to be on one of my floppy disks somewhere.

I eventually found it on, would you believe, the Virus Checker disk I had been given by the lad that had sold me the Amiga in the first place.

The moral is clear – beware disks from third parties and never put an untried, write enabled disk into a floppy drive without checking it with a virus checker.

Ian Aisbitt, Hunton, N Yorks.

A lesson from a rueful reader there. Perhaps Escom should put a warning and advice about viruses (virii to be more exact) in the manuals for the new Amigas.

Newbie nightmares

Now that the Amiga is due to be relaunched in a few months time there are a large number of Amigas for sale in the various magazines. The newcomer to the Amiga could really benefit from simple instructions on the basic functions, such as 'How to put a program onto a hard drive.' In the past some very good cover disks have been published on your magazine and, even with the manual, problems do arise. Perhaps a series on the basics of getting started, gradually moving onto the more interesting aspects, could be undertaken, keeping things simple all the while.

As a newcomer myself, I was attracted by the Amiga's specification and the fact that a very good program called Amigasat (for getting pictures from weather satellites) was available, but I am currently limited to using most of my software from floppies which is very tedious.

T G David, Sevenoaks

Your frustrations are echoed by people all over the world. However, unless we are to reinvent the wheel every six

➤

The Amiga is no more, long live the Amiga!

Yesterday I phoned the Commodore UK news line and was shocked to hear that the UK management has given up in favour of Escom. Escom have not said that they will continue production of our beloved computer, in fact they have not said very much apart from the fact that they are very interested in a set-top box. So, after ten years, this is the end of the Amiga. I will keep my A1200 for as long as possible, but it won't be long before it too is obsolete.

Andrew Markwell, Wallsend, Tyne & Wear

Fear not! Your worries are misplaced. Although it is true that Commodore UK is no more and that both David Pleasance and Colin Proudfoot are no longer involved with Commodore, Escom have vowed to continue to produce the Amiga and at prices that can only benefit the whole Amiga community. Just have a look at Paul Austin's exposé of the Frankfurt press conference starting on page 22 of last month's issue.

months or so, we must assume some kind of level of knowledge among our readers. I have no doubt that we will run a beginners series once more, but it might not happen for a while.

In the mean time, keep your chin up, keep practising with your Amiga and trying to install the software you talk about in your letter, and soon you'll find that you won't want to use space in the magazine for beginners either.

letters please

You asked for more letters pages, but what you don't seem to realise is the fact that you have to write into us. To give you a further incentive, we will offer £50 from Adam Phillips' wages to the best letter written. But please keep quiet about it, as Adam doesn't know...

Escom suggestions

This is what I'd like to see Escom do with the Amiga:

1. Encourage the software houses that produce for the PC to port some of their software over – titles like Encarta '95 shouldn't take long to do because all the hard data has already been collected.

2. Get the A600 off the market and make the A1200 the basic machine at as low a price as possible, say £279 with HD floppy and a hard drive. This should be possible given the way hard drive prices have fallen, and the 68020 can't cost very much by now.

3. Launch an A1300 in a PC-style case with a 50MHz 68030, high density floppy drive, CD-ROM and hard drive for £599.

4. Leave the A4000 alone, but drop the price to £899, add a CD-ROM and drop the 68030 version.

5. Launch an A6000 which would be an A4000 with a 68060 in it.

If all these things are done, it would generate sufficient cash to pay for the development of the next generation of RISC machines and increase the user base in the process to bring back software developers. Having a range of machines like this would mean the user could start at any level and expand as they wanted and, like the PC, the top-end machines would be powerful enough to run all the sexy software to encourage people to upgrade.

A Anthony, Dereham

Let me go over your points one by one, if I may.

1. The idea of Microsoft porting their multimedia CD-ROM titles over to the Amiga is great in principle, and you are right about the data and graphics already having been processed and collated. However, until Escom manage to convince the wide, wide world of 'serious' computing that the Amiga is something other than a games machine, Amiga Encarta '95 ('96, whatever), is unlikely to appear.

2. By now you will have probably read the great news that although Escom plan to continue to produce the A600, it will only be for sale in the emerging markets of the far east and Africa. As for A1200 pricing, how does the sub £200 price mark grab you? I agree that it would be better all round if all Amigas came with high density floppy drives, but we'll just have to wait and see on that.

3. The low-end box machine has long been on Amiga owners' wish lists so perhaps next year will see the production of a similar machine.

4. I think you might be a little optimistic wishing for a 68040-based A4000 with CD-ROM for £899, but the new pricepoint rumoured for the redesigned A4000T should guarantee heaps of sales.

5. As we pointed out in our feature last month, Escom will be launching some A4000Ts complete with a Phase Five-designed 68060 processor board. I truly hope that we will regain all the developers lost over the past two years or so with Escom's new plan.

You're all beautiful!

Having read the letter in the July issue from M F Jaquemin Kelmscott, Western Australia, who is looking for a copy of the Easy Amos manual, I would like to say that I have a manual and a complete set of disks that I do not use, and if there is a way of putting me in touch with this reader I would be happy to send it to him/her completely free of charge.

Mrs M Lynch,
218 Mendip House
Market Square
Edmonton
London N9 0TD

Every day I become more cynical in my old age, but getting letters like this just makes me swell up with a sense of, of, I'm sorry... I can't continue...

Multisync? Multi question

I hope to shortly upgrade my ageing A500 to a brand spanking new A4000. With this in mind, I wonder if you could answer some queries I have regarding future expansion.

1. I have recently noticed that some CD-ROM drives advertised in PC magazines are commented as 'can be used as a slave device on IDE'. Does this mean you can simply connect a CD-ROM drive directly to the A4000's IDE controller, and if not, why not?

2. Will you soon be reviewing the various new 24-bit graphics cards with 64-bit processors that are now becoming available?

3. Why is it that some graphics cards require alterations when used with NEC monitors? A recent review for the Piccolo mentioned this fact. I want a multisync monitor when I upgrade to my new machine and am looking closely at the NEC range because of their reputation for manufacturing quality monitors, so I am quite concerned by this.

4. Is it still possible to get a copy of PowerPacker Professional v4 from your mail order department?

Finally, how about a supertest of various monitors from the major manufacturers?

Steve Taylor, East Dereham

I'm glad to see you are going to upgrade to an Amiga, Steve, rather than a PC. As for your questions, let's look at them one at a time:

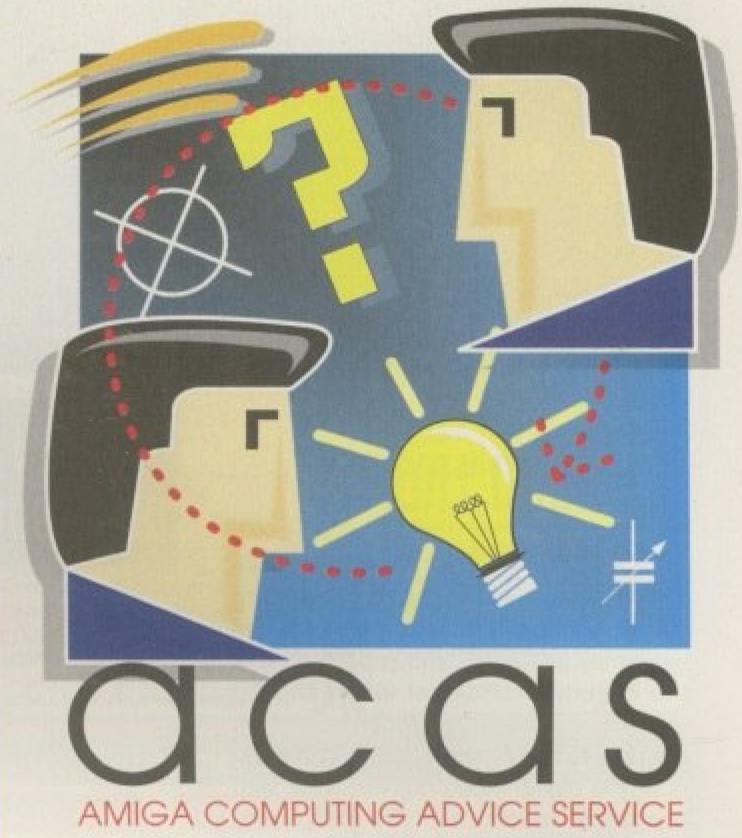
1. In theory, yes, you can connect an IDE CD-ROM drive to your internal IDE controller, but IDE CD-ROMs aren't that common and as the IDE standard only supports two devices, do you really want to use one of them for a CD drive?

2. Yes, we will be. Look for the in-depth review of the Cybervision you mention in this month's issue, with reference to programs like ImageFX and Photogenics that support CyberGraphics new 16 and 24-bit intuition screen modes.

3. Speaking personally, I have used my NEC 4FG with a wide variety of graphics cards including Picasso, Retina and EGS Spectrum (not to mention the new Cybervision64), and I have had no problems. Mind you, I haven't seen the review you mention, so perhaps the problem was to do with the card.

4. As for Powerpacker Pro, I'm afraid you're a bit late off the mark for that one and we've run out of stock. You could try Emerald Creative on 0181-715 8866 and see if they have a copy.

You have now entered a trouble-free zone. It's here that you can write in with your Amiga troubles and receive enlightenment. So, if your Amiga's giving you a hard time, drop us a line



MUI mania

I am having a problem installing the excellent MUI program from your July issue. I have extracted the Lha file from your CoverDisk, but when I use MUI I get an About MUI window appearing every time informing me that this version of MUI is unregistered and that only the System page settings are saved.

It's my understanding that you were giving away a fully working and registered version of this program. I find it rather annoying that such claims can be blatantly made by your magazine and I'm sure you have annoyed a lot of loyal readers in the process.

P Williams, Suffolk

You seem to have fallen prey of your own Amiga expertise and knowledge. As you rightly surmised, the MUI program file on our CoverDisk is indeed an Lha file which can be successfully extracted using the appropriate Lha utility, which you seemed to have done.

Unfortunately, our installer script does more than just extract the main program file. It also copies a key file called MUI.KEY to the S: drawer. This little file essentially tells MUI that it has been registered and should not display the About MUI notice anymore.

Simply copy this file from the Files drawer on our CoverDisk into your S: drawer and you should find yourself with a fully registered and functioning MUI program.



If you get this display when you run the CoverDisk version of MUI, you will need to copy the mui.key file from our CoverDisk to your S: drawer

PC CD-ROMs

I am thinking about buying the Squirrel SCSI interface for my Amiga to take advantage of the many CD-ROM and SCSI hard drives available.

I will be buying a CD-ROM as my first peripheral and have a few questions. I have a budget of £180 for a CD-ROM drive and was wondering what model to go for. Can you suggest one?

I have heard that the Squirrel allows you to run CD32 games, but not all of them work. My favourite game is Alien Breed: Tower Assault, which I play incessantly at my friends house on his CD32. Will this game work using the Squirrel?

J Sullivan, Birmingham

With £180 for your CD-ROM drive, you should go for a quad-speed drive. These have dramatically dropped in price recently and now cost anywhere from £160 onwards. I recently paid £165 for a Toshiba model.

As for CD32 games, there are certain games which are programmed in a specific way to make them incompatible with the Squirrel. However, you should have no trouble playing Tower Assault. This was one of the games we used when testing its CD32 compatibility feature and it worked fine.

HTTP or not HTTP

I have recently bought a modem and am now gradually learning more and more about the wondrous world of comms. I read *Amiga Computing* every month and have often seen reference to on-line addresses which begin with http.

What is this http and how do I access such areas using my modem?

W Edwards, Chorlton

The http references are addresses for interesting areas on the World Wide Web. Http is an acronym for Hyper Text Transfer Protocol and is essentially a sort of script which is used by suitable programs for displaying text and graphics.

To access such areas, you will need an account with an Internet provider such as Demon Internet Ltd. You will then need to get hold of appropriate software such as AmitTCP, AMosaic and MUI, which are essential programs for all Amiga owners who wish to access Web sites. If you do subscribe to Demon, they have helpfully compiled all the necessary software for you to easily download from their site.

Check out our July issue (you did get that issue didn't you?) where we gave away a fully registered version of MUI which you can use with AMosaic. Once you are set up, if you enter these http addresses into AMosaic you will be taken to the Web site of that area where you can browse through masses of information and admire the great graphics to your heart's content.

For details on Demon and their services, you can phone them on 0181-371 1234, or fax them on 0181-371 1150. You can also e-mail them at: sales@demon.net.

Dodgy drive

I have recently bought an Amiga second-hand with quite a lot of games software too. I bought it for my son who has been hassling me for a new computer ever since his Sega packed in.

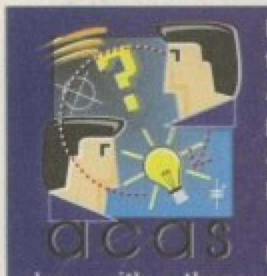
However, we are having problems loading the games. The disk drive seems to load OK for a few seconds and then makes a grinding noise and simply fails.

At first, we thought we had faulty games so we checked them on a friend's A1200. Some of the games were indeed faulty, but most of them loaded OK on our friend's machine.

B Gregg, Hammersmith

It sounds as though your disk drive is faulty. This can be because the heads are either dirty, misaligned or damaged. Try using a disk drive cleaner and see if things improve.

Failing this, it would probably be cheaper to simply buy a new disk drive. Replacement internal disk drives are quite cheap these days, costing around £30. Check out this month's adverts for the best deal.



Do you have a problem? Do you sometimes find yourself poised over your Amiga with axe in hand, spouting profanity at the stubborn refusal of your Amiga software or hardware to behave properly?

Well, calm down and swap the axe for pen and paper, jot down your problems, along with a thorough description of your Amiga setup, and send it off to Amiga Computing Advice Service, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP.

Any questions?

RAM choice

I have an A1200 with 85Mb hard drive. I enjoy reading *Amiga Computing* and am extremely interested and impressed with the coverage of digital video and 3D graphics you frequently report on.

I believe the Amiga's greatest strength is in the digital video market, what with products such as the Personal Animation Recorder, Toaster, LightWave and other Amiga packages being used both by consumers and film and video professionals alike. As you may probably guess, I am quite interested in this area and am keen to get my hands on LightWave 4 to hone my computer animation skills.

Obviously, my standard A1200 setup with its meagre 2Mb chip RAM and 85Mb hard drive are not exactly optimal for running LightWave, which is why I'm going to invest in a bigger hard drive, an accelerator and more memory. However, I have been given the opportunity of buying a 8Mb PCMCIA RAM card and was wondering whether to buy it and use it in conjunction with the memory on the accelerator board.

I want to buy the Squirrel interface to allow me to use high capacity and fast SCSI drives for storing my animations, and was wondering if there is some way of having both the Squirrel and the 8Mb RAM card connected at the same time. Are there any hardware gadgets available or in development which can do this?

K Saunders, Merseyside

I would advise against buying the 8Mb PCMCIA card. You will not be able to have the Squirrel and the RAM card connected at the same time. I'm not aware of any methods, either commercial or DIY, which will allow you to have multiple PCMCIA devices in the slot.

Also, the PCMCIA slot is a 16-bit expansion port as opposed to the 32-bit trapdoor slot. Therefore, PCMCIA memory cards are almost twice as slow as their trapdoor counterparts.

Dirty rotten mouse

I've had my A500 for six months now and the first thing I did when I bought it was buy a new mouse – the Commodore mouse which came with it was, unfortunately, dead.

Now though, after trouble-free operation, my mouse is starting to play up. It isn't as smooth as it used to be and feels somewhat 'lumpy,' and the pointer sometimes doesn't move immediately, almost as though it was slipping slightly.

What's wrong with my mouse and can I do anything about it short of buying a new one?

L Conner, Maidenhead

Your mouse sounds as though it simply needs a clean. If you look under the mouse, you will see that it is possible to open it up to get at the mouse ball. If you remove the ball and look inside, you will probably see three metal or plastic rollers. You will also probably see the dirt is clinging to them. This is what's causing the lumpy feel and erratic mouse movement.

You need to remove this dirt with a suitable implement (I use a small screwdriver) and once done, you will probably find everything much smoother.

Unfortunately, this is a common problem with all mice (except those with optical mechanisms in place of mechanical rollers) and you will find that you may have to clean it yet again in another six months time. Try buying a bottle of anti-static cleaning fluid and cleaning your mouse mat every so often. This may reduce the amount of dust the mouse ball picks up and deposits on the rollers. Try cleaning the mouse ball too.

Green monster

Please help me. My five-month old A1200 displays a green screen every time I try and boot the damn thing. It was working perfectly well until then. What's happened to my poor Amiga and how much will it cost me to get it fixed?

E Erickson, Stanstead

Oh dear. A green screen usually indicates a problem with Chip RAM, I believe. However, I assume you bought the A1200 new and if so, it's still under warranty so you can take it back to the store for them to sort out for no extra cost to you. Hooray

Bad sums

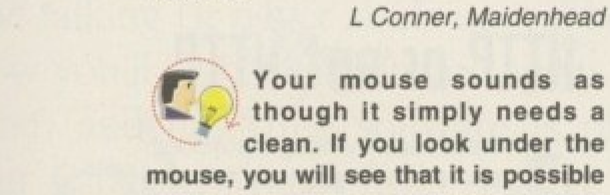
I have an Amiga 4000 to which I have recently attached a replacement 540Mb hard drive. I have partitioned the drive into two sections, one for Workbench and one for general data called Work. However, after four error-free months of use, I now get an error message whenever I open the Work partition. The error message says: 'Work has a checksum error on disk block 90758.'

I can cancel the message and there don't seem to be any adverse effects, but the message is really annoying me. What does this error message mean and how can I get rid of it? A friend tells me I need either DiskSalv or Ami-Back Tools to repair the problem, but which one is the best?

R Allen, Wimbledon

A checksum is a numeric value which is appended to a block of data on the disk. The number is the result of a simple calculation of the contents of the block of data and is a method of ensuring that data is not corrupt. Therefore, your error message is saying that the contents of the data block at 90758 have been altered somehow and don't match with the checksum figure.

Ami-Back Tools and DiskSalv are, indeed, the answer to your problems. They are two great utilities which allow you to detect and repair all manner of problems. As for which one is best, well, they are pretty much equal and do the same job, so it's down to your own personal taste.



Here are two of the best disk repair tools around for the Amiga. Every hard disk owner should have one of them

Big floppies

A friend and I are always transferring files between our Amigas using floppy disks. However, my friend has an A4000 which features a high density disk and I have an A1200 which only has a low density drive. Are there are any high density external drives for the A1200?

D Samuels, Bedford

Indeed there are high density drives available for your A1200. Power Computing, who by the way happen to be located in your neck of the woods in sunny Bedford, can help you out.

The drives in question are the XL range which format to 1.76Mb. Internal drives cost 55.95 while external drives cost £59.95. Power Computing can be contacted on 01234 273000.

public sector



Dave Cusick won't let a nasty hard drive crash prevent him from bringing you this month's bejiffybagged gems

If there's a lesson to be learned from my experiences this month, then it is that hard drive backups should be performed quite regularly. It's astonishing how many small but incredibly useful programs can be accumulated in just a few weeks, and these are the sort of things that when lost through hard drive problems can prove difficult to find again. 'Which utilities disk did that little commodity come from?' can become a worryingly frequent thought.

Anyway, enough of my moaning, because fortunately not only was Public Sector fully backed up, but it was totally unaffected by the incident. The whole saga also gives me an excuse to introduce newer Amiga users to Dave Haynie's excellent shareware program Disksalv, possibly the best disk repair and file recovery utility in existence. You never fully appreciate such programs until the unthinkable occurs.

Paint Paste And Draw

Programmed by: Simon Hinchen
Available from: Central Licenceware Register

Youngsters are capable of producing some rather offbeat artistic creations. The trouble is that they are often completed using media such as wax crayons or thick paint brushes coated in highly splashable substances. That's why numerous computer paint packages have attempted to put an end to the mess-making without taking all the fun out of art. The problem is that not many of them have succeeded.

If all paint packages aimed at youngsters were as good as Paint Paste And Draw then the world would be a better place. A computerised colouring book with added extras, this gem is guaranteed to provide hours of amusement for kids of all ages. A selection of line-



It's programs like Paint Paste & Draw that make you wish you were still a kid

Bratwurst

Programmed by: 3 Elks
Available from: OnLine PD
Disk No. OX207

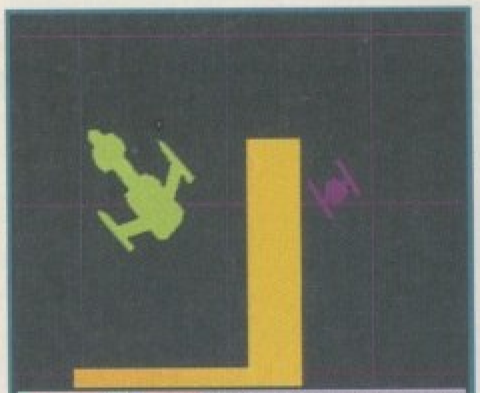
Way back in the January issue I showered praise on top two-player starship battlegame Roketz which boasted lovely graphics and a sizeable helping of addictiveness. Well, Bratwurst (apparently in addition to being a type of German sausage) is essentially Roketz with one fundamental difference.

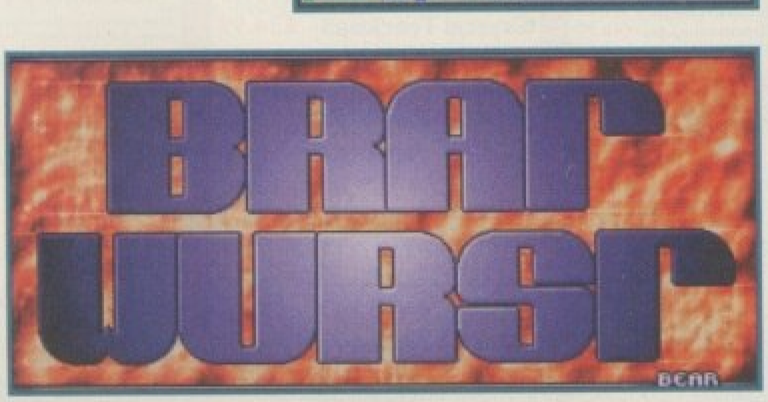
Instead of using conventional graphics, it employs vector graphics which are far less detailed but which can be easily scaled. The benefit of this is that when spacecraft are close to one another the view zooms in to provide an all-action closeup. As they get further apart, they remain on the screen at all times because they shrink in size.

Initially, the effect can be a little disconcerting, but it really does look impressive and doesn't take long to get used to. A happy consequence of scaling the graphics is that up to four players can compete at once via a four-player joystick adaptor. For those lacking one of these devices, three can play simultaneously – two on joysticks and one on the keyboard. There isn't a one-player mode, though, so you will need at least one friend handy if you fancy a quick blast.

Options available include a selection of ship types and weaponry, which add to the overall appeal of this polished product. The downside of the technical wizardry employed by Bratwurst is that it requires an AGA machine, but this is the sort of game that makes upgrading worthwhile.

Bratwurst: Freaky scaling graphic battles have never been so much fun





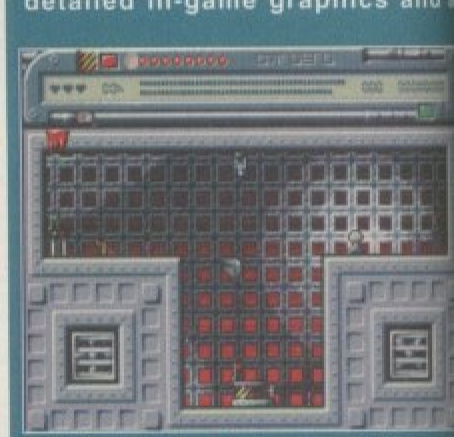
Fancy naming a two-player shooter after a sausage. Perhaps that's German humour

Code Name Nano

Programmed by: Malcolm Lavery
Available from: Malcolm Lavery

Sharing a rotating spacecraft theme with Bratwurst, Mr Lavery's latest offering bears some resemblance to Oids, with little stranded people scattered around a barren spacescape awaiting rescue. That's no bad thing though, because at the end of the day playability is paramount, and in that department Code Name Nano delivers the goods.

Attractive introductory screens, detailed in-game graphics and a

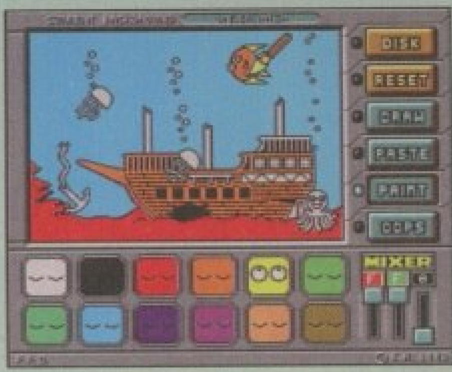


Your mission is to care for these toddlers while I nip down to the shops... (Blimey, that's a poor attempt at a Code Name Nanny joke, isn't it?)

drawn scenes can be loaded in as the basis for a picture. These can be filled in with colour, and then various objects and creatures can be pasted on top. If you're feeling particularly inspired it is also possible to draw 'freehand' onto the picture or to design for yourself some of the pasting objects. If you make a mistake, clicking on the 'Oops' button rectifies the situation.

Every action is accompanied by a suitably amusing sound effect, another string in Paint Paste And Draw's rather well-strung bow. Stamping a caveman on the dinosaur scene or adjusting the palette selection sliders becomes fun in itself.

At the end of the day, while no Amiga paint package will really be able to compete with stripping half naked and rolling around spreading pre-school primary-colour paint on offcut strips of wallpaper, Paint Paste And Draw must be commended for coming a close second.



Useful and humourous features abound in Paste Paint & Draw

Itchy And Scratchy 4

Produced by: Chrome Australia
Available from: OnLine PD
Disk No. OA17

I'm beginning to wonder if my not owning a satellite or cable TV system is adversely affecting Public Sector. When Itchy And Scratchy disks 2 and 3 came under scrutiny a couple of issues ago, I blathered something about excellently drawn bright graphics and 30-second bursts of action.

If I had Sky One I might have seen them on The Simpsons earlier; in fact I only saw an episode containing an I&S cartoon at a friend's house the other day.



Yes, they're back...



...and they're as funny as ever...



...so, erm, hurray for Itchy and Scratchy, or something

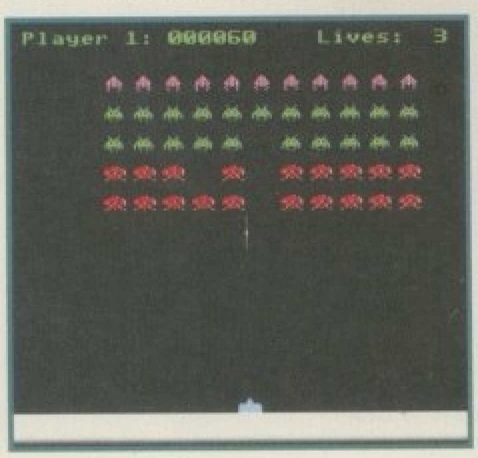
I don't know whether these disks are based on original storyboards and drawn from scratch, or are simply digitised versions of TV cartoons. It doesn't really concern me a great deal though, because they're still excellent animations and well worth a look.

This fourth title in the series, Screams From A Mall, is no exception. This is violent fun for all the family, and although it comes in a mouse-sized chunk it is hard to fault the quality. I have no hesitation in recommending it to cat haters everywhere.

101 Games 3

Programmed by: Various
Available from: Software 2000

Sprawling over seven disks, this pack would seem to have something for everybody due to the sheer number of games included. There are puzzlers such as Rubik's Cube and numerous Tetris derivatives, arcade games such as space invaders' clones, and little Workbench games such as MiniPac which offers Pacman in a little window. There are uninspiring programs such as the terminally tedious Noughts And Crosses, and downright bizarre things like Arena, in which two players control robots which stand there and blast one another into oblivion.



Invaders which, along with 100 other games, makes up Software 2000's latest offering

Mad Bomberman is a hectic bomb-catching bonanza for people with a responsive mouse, while a Defender clone should suffice for those with itchy trigger fingers. Uggo is also a decent shoot-'em-up which is addictive despite some odd slowing down every now and then.

Pong is a faithful reconstruction of those old Grandstand Video Game bat-and-ball things. Boulderdash fans are not forgotten either, since Not Caverunner 2 is another highly unoriginal but perfectly playable game.

The problem is that there are only a few really good games here. The vast majority are seriously mediocre offerings with no lasting appeal and little to set them apart from the crowd. It's hard to imagine eagerly returning to all but a few of these games.

There are also a few which stubbornly refuse to work, which is perhaps understandable given the changes in the Amiga range of computers since some of the older games were written. It's harder to be understanding, though, when the ReadMe files refuse to work from the main menu screens, as they frequently do.

The final disappointment for me was the price tag. Although this is a seven disk package, £10.99 plus 70p postage and packing does seem slightly too much given the unexceptional nature of the programs involved. Perhaps worth a look if you're really stuck for games, but I'm unconvinced.

➤



A wealth of options are on offer from the Code Name Nano menu

smattering of sampled sound effects combine to create an impressive little game. Space-age computer terminals are emulated throughout, and it must be said that the presentation is extremely hard to fault.

There are two worlds to be tackled, each with numerous levels. Each level has its own password, so frustration is kept to a minimum, but that's not to say CNN doesn't present a tough challenge.

Copies are available for a fiver from the author, and as an added bonus it comes with a totally free, gratis and complimentary copy of Sonic Drum Kit, a program so good that it could easily be sold for a great deal more.

You are the everything...

I want to hear from you if you have any program, whatever its purpose, which you consider worthy of review. Whether it will be freely distributable public domain, shareware or licenceware, if you feel it's of sufficient quality to merit coverage then stick it in a jiffy bag or padded envelope and send it in with all haste. I promise I'll at least look at your work.

Please clearly label the disk, and include a cover letter supplying a description of the disk contents, price and some basic instructions. The magic address is:

Dave Cusick
PD submissions
Amiga Computing
Media House
Adlington Park
Macclesfield SK10 4NP

Sonic Drum Kit 2.1

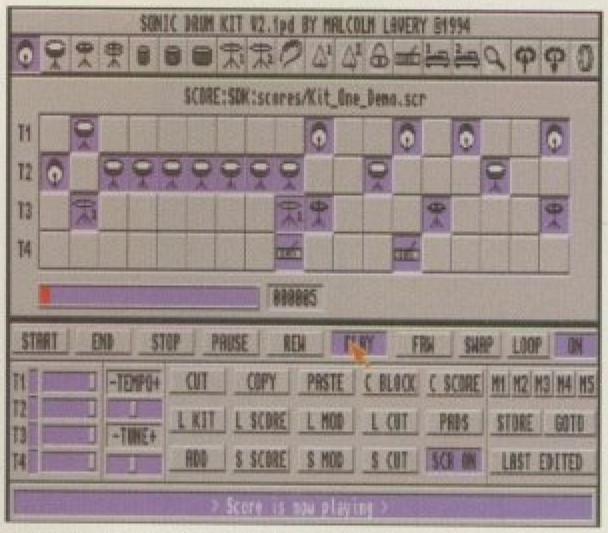
Programmed by: Malcolm Lavery
Available from: Malcolm Lavery

Lots of people would probably have taken up the drums were it not for two slight problems. Firstly, as with all musical instruments, the cost of getting hold of decent equipment can be quite high. Secondly, there is the racket the things tend to make when banged quite hard with drumsticks.

Fortunately, Sonic Drum Kit avoids such problems. It's totally free to people registering Code Name Nano and the output volume is, of course, considerably more controllable than with a real life kit.

There are four tracks onto which can be placed all manner of drum sounds according to which of the several supplied drum kits is loaded. A few clicks here and there and before you know it you've got a drum track. These can be saved to disk for use later, effectively making Sonic Drum Kit a programmable drum machine.

Playing around with this program can be an addictive experience, because trying out new ideas is fascinating. The colourful and attractive interface allows easy access to the features on offer, which include block cutting and pasting, full control over tempo, and everything else one would expect. The only real limit to what you can achieve with such an excellent program is your own imagination.



Sonic Drum Kit is so good it might even convince Andy Maddock to stop messing around in OctaMed all day long

Educational Software

Available from:
Central Licenceware Register



Learn all about the infamous British fighter...



...and its German equivalent

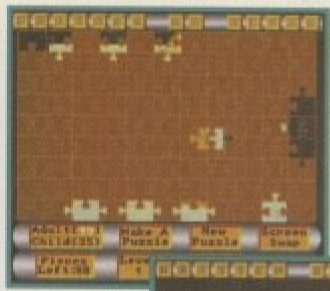
Don't talk to me about aeroplanes. In these parts the last week in June is a noisy time because that's when the Woodford Airshow takes place, and as I write all manner of deafening technological wonders are screaming overhead. They don't really do much for me, but many people will happily gaze up into the heavens for hours watching the darned things.

If you fall into that category or are merely curious as to the history of two infamous aeroplanes of yesteryear, the CLR guides to the **Spitfire** and the **Messerschmit** are for you. These friendly hyperbook-style guides cover every aspect of the planes and their histories, and feature plenty of excellent illustrations and diagrams.

Flight of a rather more space age variety is the theme of **Rocket Maths,** an impressive mathematical quiz program for children. While it is especially suited to younger kids with simple animated sequences rewarding good performances, the difficulty level can be increased to offer a greater challenge.

Older students, or more specifically GCSE and A-level chemists, are the target of **Basically: Chemistry.** Plenty of potentially tricky topics are demystified with this comprehensive hypertext guide. It's a bit uninspiring visually but there are some simple diagrams and the text is helpful and informative. One particularly interesting feature was the inclusion of a Periodic Table which displays detailed information when an element is selected.

Finally, **Jigmania** is a computerised jigsaw puzzle – or rather, scores of computerised jigsaw puzzles, because once the provided puzzles have been solved it is possible to turn IFF images into new puzzles. Each puzzle can be made up of either 35 or 99 pieces and a grid outline of which shape of piece goes where can be superimposed if desired. The music is dire, but turn down the volume and Jigmania is a cracking puzzler.



Can you see what it is yet?



...well, it's supposed to be this, so there's plenty of work still to do in Jigmania

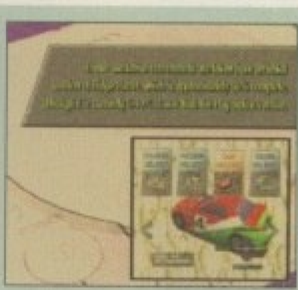
Ridge Racer AGA Demo

Produced by: Chris Brown
Available from: Chris Brown

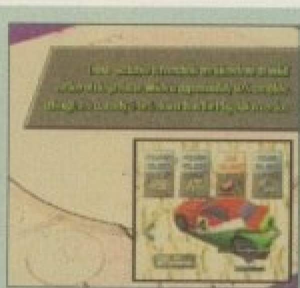
Yes, it can be exclusively revealed that Sony is working on a £400 hardware emulation system that will allow AGA Amigas to run Sony Playstation games, such as Mortal Kombat III and Ridge Racer. The latter is the first game lined up for release and will apparently sell for around £65-£80. The screen shots contained in this demo are really impressive and the game is currently running only 5-10 per cent slower than the Playstation version, despite being just half finished.

Oh, alright, it's only a joke. We're not really going to see a Playstation-perfect Ridge Racer on the Amiga. But this slideshow offers convincing evidence with which to impress gullible friends, and also features a simple wireframe vector graphics driving game as an added bonus.

While it appears to only have one very short track and it's not quite Ridge Racer graphically, it is smooth and slick. Still, for £400 you could probably buy a Playstation anyway. But given that the game relies heavily on its incredible graphics, surely you should do yourself a favour, and instead just send a quid or an SAE to Chris Brown for a look at the Ridge Racer screenshots. It's better value for money than the real thing could ever hope to be.



Owners of ultra-pricey Sony Playstations eat your heart out.. The Amiga shows exactly what it can do...



...or not, in actual fact, because in case you hadn't guessed it was all a wind up

Find the answer within...

Chris Brown
5 Tyneham Close, Aylesbury, Bucks
HP21 9XA

Malcolm Lavery
20 Shakespeare Avenue, Orgill,
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B77 4EL
(Tel: 01827 684969)

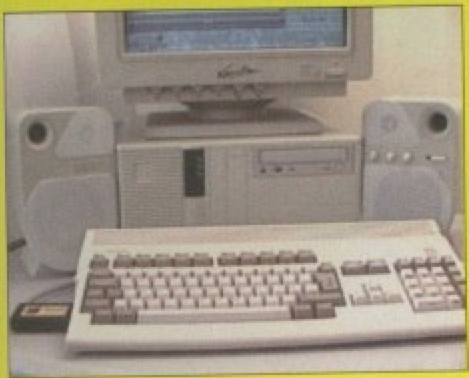
Central Licenceware Register
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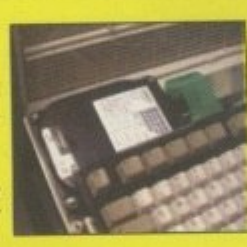
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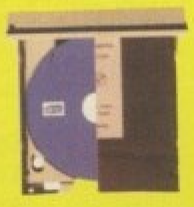


Well the wait is over and the future has arrived in the shape of the new Panasonic PD System SCSI Optical drive. This unit is a Hybrid 650Mb, Quad speed CD-ROM and Optical Read/Write system. (Yes, you did read that correctly!).

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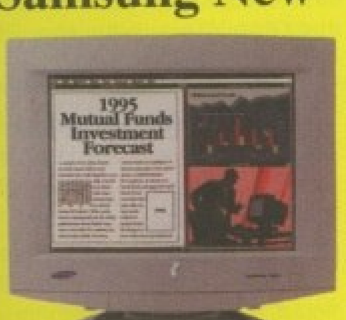
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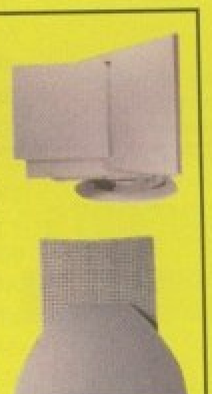
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A vision of



Paul Austin explores CyberVision64 – could this be the ultimate in retargetable graphics?

The challenge to go beyond the barriers of standard Amiga graphics has seen some major players over the years, each in turn throwing down the gauntlet to the opposition. GVP, MacroSystems and VillageTronic have all tried to corner the market, and now its the turn of Phase 5 to take up the challenge.

On a purely technical basis it's fair to say Phase 5 are off to a flying start, although that statement may raise a eyebrow or two at MacroSystems. The board itself combines a blisteringly fast Zorro3 interface alongside a 64-bit wide graphics controller and some exceptionally smart and friendly software – the latter being something the Retina certainly can't boast in its armoury.

As you may already know, a Zorro3 is a 32-bit slot, which raises the question why does the CyberVision have 64 appended to its title? Basically, this applies to the Trio64 graphics processor and its accompanying 64-bit blitter – hence the reference.

In reality, this all adds up to incredibly fast internal data transfer, reaching speeds approaching 100Mb per second between the blitter and the board's internal video memory. Add that to fast 24-bit D/A conversion and a 135MHz bandwidth and you arrive at extremely fast screen update and refresh rates in 24-bit, high colour or 256 colours, even though the transfer rate between the card and the Amiga's main memory is limited to around 16Mb per second through the Zorro.

Boil all this techno-babble down and you arrive at the fastest graphics board in the business. However, as any RTG owner will tell you, there's a lot more involved in upgrading your graphics than speed. Just as important is compatibility, third-party support and, of course, good old-fashioned user friendliness.

When it comes to compatibility, the CyberVsion64 certainly scores highly. The incorporation into the overall Amiga environment, and especially Workbench, is particularly well done.

One of the major problems faced by any RTG board is how to integrate with, and expand upon, the normal Amiga environment. GVP's Spectrum made a ham-handed and ultimately unsuccessful attempt with the EGS standard, while the Retina suffered from a classic example of German over-complexity. In fact, the only real success story was the Picasso II

Memory to resolution requirements

Resolution	Colour depth	Memory required
640x480	256 (8-bit)	2Mb
640x480	32k (16-bit)	2Mb
640x480	16M (24-bit)	2Mb
800x600	256 (8-bit)	2Mb
800x600	32k (16-bit)	2Mb
800x600	16M (24-bit)	2Mb
1024x768	256 (8-bit)	2Mb
1024x768	32k (16-bit)	2Mb
1024x768	16M (24-bit)	4Mb
1280x1024	256 (8-bit)	2Mb
1280x1024	32k (16-bit)	4Mb
1280x1024	16M (24-bit)	2Mb

As briefly mentioned previously, a good monitor is all important to any RTG system, but it is especially important to the CV64. For example, even though you may opt for the 4Mb configuration for the CV64, it doesn't necessarily follow that you will have access to the very highest resolutions and colour depths on offer.

If your monitor cannot accommodate the necessary line frequency, band width and refresh rate required to generate a specific resolution, it won't even appear as an option in the ASL-requester. But even if it does appear, it doesn't necessarily follow that it will be a non-interlaced display, unless you have a monitor of the highest quality. In short, there's a chance it will flicker in very high resolutions.

If you're specifically interested in using modes above 800x600, you should be looking for a 17 inch monitor that can accommodate a 56KHz refresh rate. However, for the real hard-core an even larger monitor running at around 86KHz would be preferable – thereby ensuring a completely flicker-free display.

Bear in mind that an RTG and its monitor are an inseparable team. Even if you find a 15 inch monitor with the necessary refresh rate, it's fairly safe to say that squinting at tiny icons in super high resolutions will do your eyes no good whatsoever, regardless of the dot pitch – lower dot pitch infers a higher quality display.

Not surprisingly, given the near invisible integration into the general Workbench environment, software compatibility isn't a problem. As stated earlier, it is roughly on a par with both the Retina and the Picasso II when it comes to handling the graphic idiosyncrasies of certain none standard packages. These aside, the card performs faultlessly with the vast majority of Amiga software. During testing

the future

What's in the box

Aside from the aforementioned installation disk and a few additional drivers, there's one major freebie on offer, namely PhotogenicsLite, which as the name suggests is a cut-down version of the Almathera classic.

This particular addition illustrates just how impressive the CyberGraphics standard, especially in the CV64, really is – full 24-bit preview, real-time paint and effects application, and instant image update. In short, one of the few chinks in the Photogenics' armour receives an instant repair.

The freebie is excellent, but for those who have already upgraded to version 1.2 of the full version of Photogenics, it's even better. I doubt Phase 5 could have found a better example of what the CV64 is capable of.

Apart from the Almathera bundle, Phase 5 have also provided a number of CV64 specific drivers as part of the standard software bundle. Not surprisingly ADPro gets a dedicated saver, along with an ImageFX render module, both being fairly predictable repeats of similar offerings on other boards. Having said that, the ImageFX version does offer the unusual ability to render a 24-bit of the main buffer within a window above the ImageFX panel as an option to firing-up a dedicated scrollable screen.

Other notables include a Maxon Cinema4D output module, a PhotoWorx display driver and lastly, a Real3D external screen module. Aside from these commercial efforts, you're also provided with two viewers, one of which employs the familiar VT-style Workbench interface invoking a dedicated display screen, while the CLI alternative works as either a script-controlled display or perhaps as a pull-in for a directory manager, generating a high colour or 24-bit window on either the Workbench or any pre-defined public screen.

which, although slightly lumpy, did at least make the process of emulation and upgrading screens fairly straightforward.

However, in this particular department it must be said the CV64 scores particularly highly. Being a Zorro3 card, it's only real demand is a suitable machine, namely either an A3000 or A4000 running Workbench/kickstart 3.0 or 3.1. In the case of the A3000, 3.1 is the only option, which of course may incur additional upgrade costs – however this is common to all RTG boards which attempt advanced Workbench emulation.

Assuming you have the necessary machine, Workbench, and, of course, a CV64, you'll have all you'll need for the most advanced RTG system on the market. As you may already know, the Picasso and Retina options offer either a much improved 256 Workbench – in the Picasso's case – or a four colour Workbench with 24-bit windows for the Retina.

APPLICATION SPECIFIC

The CyberVision, however, offers all the available screen modes including 256, plus a no compromise full 24-bit Workbench. Admittedly, there's little need for a 24-bit Workbench at present, as direct 24-bit support is almost entirely application specific at the moment – a classic example being Workbench itself, which even in its 3.1 revision still only supports graphics of 256 colours for backdrops and so on.

However, 24-bit as standard will almost certainly be the format for the future, and considering Phase 5's existing close ties to Escom/Amiga Technologies, it seems likely their base technology will play a part in the move.

Leaving the usefulness of a 24-bit Workbench aside, the most impressive aspect of the CV64 is its incredible speed in all modes and resolutions – whether you're running a 256 or 24-bit Workbench. As any AGA owner will know, running in 256 colours on a standard AGA machine is a painful slow experience. However, on the CV64 both 256 and even 24-bit Workbench screens, regardless of resolution, run at the same speed as 4 or 8 colour screens on a standard machine. Pull-downs leap from the title bar while windows snap into position instantly – this is one fast piece of plastic!

Apart from the breakneck speed of the board, another major appeal is its ease of use. Unlike some RTG ➤

> In reality, it all adds up to Incredibly fast internal data transfer, reaching speeds approaching 100Mb per second between the blitter and the board's internal video memory

the board remained stable, never causing a crash – either to the machine itself or any graphically upgraded software. Better still, the board's simple but effective control system didn't force multiple return visits to the manual, which perhaps accounts for the minimal documentation which accompanies the card.

The only downside for the CV64, especially in relation to the Picasso II, is it's lack of direct third-party support. As Picasso users are all too keen to point out, their board is very well supported, and over the last year it's become something of an industry standard with direct support within LightWave, TVpaint, Photogenics – in fact most high-end graphics specific software now boasts some form of Picasso support. At least for the time being, that can't be said for the CV64 – although it's still very early days.

CyberVision drivers

Another element in the CV64 equation is the arrival of dedicated CyberGraphic drivers for a whole range of existing RTG boards including the Picasso II and Retina. Basically, these drivers offer a similar improvement in functionality, ease of use and improved speed, which at least in part accounts for some of the enhanced performance which the CV64 enjoys.

Obviously, Phase 5 have realised that it's unlikely that the majority of existing RTG owners will be willing to dump their existing kit in favour of the CV64. Great news for the existing RTG set, but it nevertheless seems a rather strange marketing ploy, especially considering that it coincides with the launch of their own board.



A classic example of a 24-bit Workbench with CyberWindow adding a touch of graphical glamour

➤

systems, the actual set-up procedure is blissfully simple. After installing the card and software the only thing you have to do is fire-up the newly installed CyberMode utility and select an appropriate monitor specification – in other words one which matches the bandwidth of your monitor, i.e. 48 KHz.

This effectively defines which resolutions will be available to you within the normal Amiga ScreenMode ASL-requester. Once you've made your selection, simply save-out and reboot. If you then open up the ScreenMode utility you'll discover a whole host of CyberGraphic modes in a wide range of resolutions ranging from 256 to high colour 64K, and of course the all-important 24-bit posing modes.

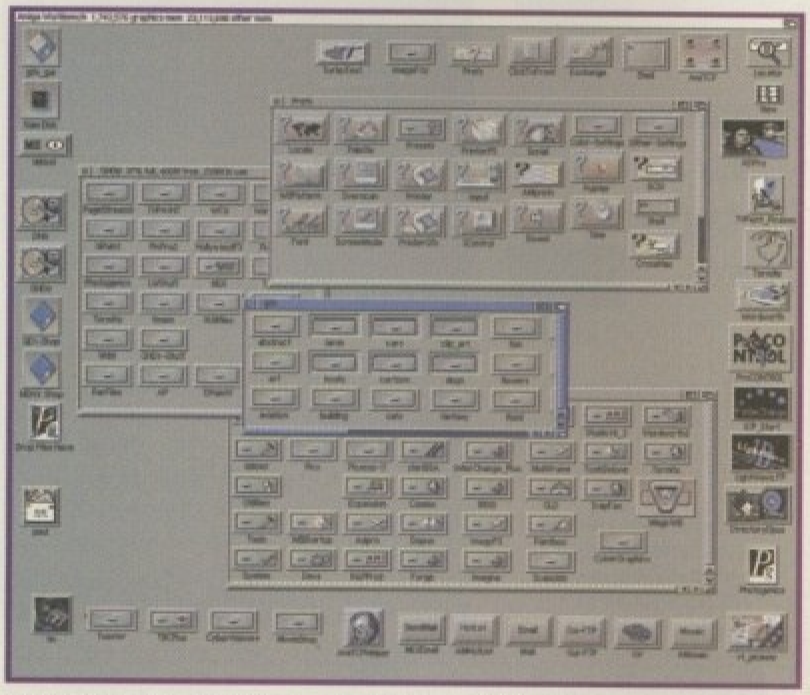
MODE SPECIFICATIONS

Basically that's it. You can then specify the mode you like for Workbench or in fact any other software which allows you to specify an independent resolution. However, not all software allows you to set the none standard screen size of colour depth from within the software.

Fortunately, Phase 5 have thought of that and have included a stand-alone Picasso-style NewMode utility which sits in the WBStartup drawer and allows you to intercept, specify and save the desired resolution and depth for any new screens or software you may want to upgrade. However, it must be said the CV64 is no miracle worker – all the software that causes problems on the other RTG boards still has the same effect on the CV64. LightWave's Modeller and Layout still suffer the same slow and buggy screen update, Imagine still has the same re-draw problems and, of course, MagicWB icons still get completely porked if you stray above an 8 colour Workbench.



Photogenics on a massive scale. If CV64 support spreads, Phase 5 could have a real monster on their hands



1024x768 is just about the smallest high resolution CV64 mode – anything higher and a 17 inch monitor is a must

LIMITATION

The only other limitation in the search for the ultimate image is the available RAM on the board itself. As you can see from the chart, the CV64 ships with either 2Mb or 4Mb of on-board RAM – although according to the manual, upgrading the former is easy. This does have a direct effect on the available resolutions and colour depths, however. Basically, the 2Mb version can't manage some of the higher combinations of colour depths and resolutions.

Please bear in mind this chart does not show all the available resolutions, some of which go much higher, especially in the 256 and 64K modes – 1280x1927 and 1600x1452 being good examples. And like its counterpart on the Picasso, CVMode utility also enables you to alter and define new resolutions, assuming your monitor can take the strain.

The bottom line

Product: CyberVision 64
Supplier: Gordon Harwood
Tel: 01773 836781
Price: 2Mb £329.95
4Mb £439.95

Ease of use	**10**
Implementation	**9**
Value for money	**8**
Overall	**9**

The big decision

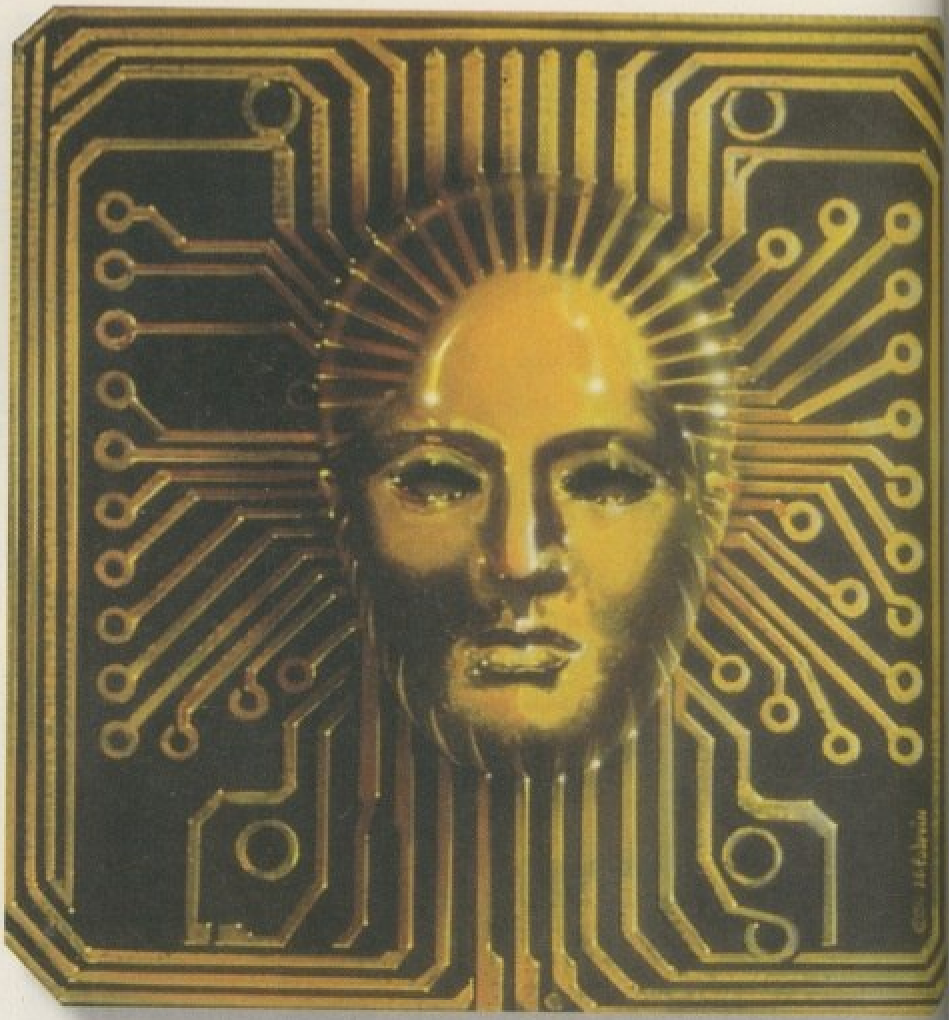
Technically speaking the CV64 is without doubt the most advanced RTG to appear on the Amiga. When it comes to available display options and speed it again outstrips the opposition. As for Workbench emulation it's faultless, to the point that it's almost completely assimilated into the normal Workbench environment.

As mentioned earlier it's also the only RTG system to offer a true 24-bit Workbench. However, the question remains, is there really any serious point to having a 24-bit Workbench at the moment? After all it's your applications which really benefit from the graphic power of the board, not intuition. And it's in that area where the opposition, and especially the Picasso, already have a head start. On paper the CV64 is without doubt the best card in the business, but I seriously doubt that that will be enough to make the majority of existing RTG users either sell or trash their existing systems. What the CV64 really needs is a 'must have feature', which leaving aside raw speed, it simply doesn't have.

Any newcomers to the RTG market would obviously be mad to overlook the CV64. It's an exceptional card, but it remains to be seen whether that alone will tempt enough newcomers – if there are any left – away from the widespread support for the Picasso II.

This is basically a great piece of kit, but perhaps kit without a cause. It's a shame that Phase 5 didn't ship with some animation software in the vain of Main Actor, which given the card's speed could have dropped jaws and opened wallets simultaneously.

If you really need the ultimate in screen update, immense resolutions in 24-bit or otherwise, and can afford a monitor that can keep pace with your investment, it's a bargain. The question is do you, or are you just trying to keep pace with the guy next door?



Expert Amigas

At the Universities of Salford and Glamorgan, a new artificial intelligence system designed to impart expertise to the layman is near completion. Gareth Lofthouse found out how it's all been done on the Amiga

In a memorable scene from The Hitchhiker's Guide to the Galaxy, a supercomputer had been set the task of finding the answer to life, the universe and everything. Named *Deep Thought*, it was the most powerful computer ever designed, yet its builders still had to wait centuries for its oracular report on the biggest question of them all. After processing for an eternity, it finally pronounced its answer: 42.

Hype about technological developments often leads to ludicrous anti-climaxes, but this episode of Hitchhiker seems particularly mocking of the grandiose claims made for artificial intelligence (AI).

In reality, too, AI has been a victim of pride before the fall. When this field of research started out in the '70s, the scientists saw computers as the way to build utopia. It was thought that these systems would be set to solve the great problems that faced humanity, that unemployment, poverty and similar social difficulties could all be overcome by the electronic brains of the future.

Now people are a lot more sceptical. Computers have certainly revolutionised the way many of us live, but they've brought their own set of problems; the benefits of these labour-saving devices, for example, have had the side effect of threatening many jobs.

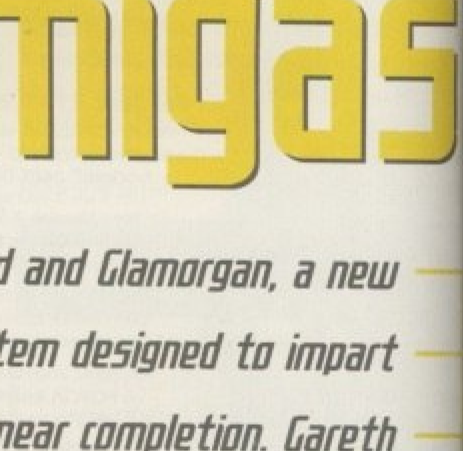
But though AI has progressed more slowly than the original dreamers had hoped, that's not to say research in the field has been abandoned. There have been encouraging successes as well as failures, with one of the most promising developments to come out of AI being expert systems. And though AI is commonly associated with huge mainframes or workstations, one of the most advanced expert systems in development is currently being constructed at the universities of Salford and Glamorgan on an A4000.

KBTools, like other knowledge-based systems, is designed to capture expertise on computer in a form that can then be shared with non-experts. Similar programs are already being used in such diverse fields as medicine, agriculture and finance for diagnosis, selection and prediction.

Expert systems allow a professional to construct large inference nets representing their expert knowledge. Laymen can then use the programs to gain expert judgements on a professional matter. A simple medical diagnostic tool might ask the user 'Are there spots on the patient's skin?' Depending on the user's response it might then ask questions like 'how large are the spots' and 'what colour are they?' until it has enough information to make its diagnosis of the condition. In other words, they are like electronic advisors.

So far, KBTools itself has been used to design a program that guides users through the complex issues involved in planning a building project and writing a contract between surveyors and their clients. Named INCA, this program is an example of the sort of powerful expert system KBTools can be used to construct.

KBTools aims at two levels of user. First, these programs require a base of human knowledge in a defined subject



Negligent computers ?

A computer never lies, they say, but the possibility of receiving erroneous advice from an expert system cannot be ignored. Glitches in the programming, mistakes in the architecture of the inference net, or simply a flaw in the expert information incorporated by the knowledge engineer could all lead to inaccurate results.

And where bad advice is given in a commercial setting, the question of legal liability must be raised. It will be interesting to see how the courts will deal with this new question in the future. However, for the moment the Chartered Institute of Surveyors have slapped a disclaimer on their expert system that places liability firmly at the feet of the individual user.

area, so initially there must be an expert – called the knowledge engineer – that can provide the system with a set of rules.

The second and more general user will be those seeking expert guidance from the program – in INCA's case, this will be the surveyors, contractors and developers involved in the project. This user simply answers a series of questions about the planned building development until the Amiga can draw up a contract to suit their individual requirements.

What's particularly impressive about seeing INCA in action, however, is its ability to cope with the grey areas that commonly arise in any profession. In fact this asset is vital, for though many questions in a field of expertise can be answered either 'yes' or 'no', there are other times where such clearcut answers are impossible.

ROUTES

INCA allows for these grey areas in the context of a building project. One question might ask 'how clear are the plans in the building specification document?' giving users a percentage slide they can use to respond. Others allow users to answer 'unsure' or 'fairly.' And even more impressively, KBTools imitates human expertise in so far as if it can't reach its goal with one route of questioning, it will try to get there using another route.

Given the technological breakthroughs that the developers have achieved, some will be surprised that they chose to use machines commonly perceived as home computers in preference to expensive workstations. Dr Andrew Basden from the University of Salford gave their reasons for using Amigas.

"We wanted to have complete freedom to build a knowledge-based system from the ground up and not just buy a package like Kappa PC," he explained. "In fact, the Sun Workstation version of Kappa requires 48Mb of memory whereas you can do that sort of thing on the Amiga in 2-3 Mb."



Dr Andrew Basden, co-developer of the KBTools expert system

Inside the electronic mind

Expert systems ask the user a series of questions and then compares the answers to its knowledge base – otherwise known as the inference net – so that it can either draw conclusions or speculate about the possible answer. Using thousands of IF...THEN rules, the expert system uses an inferential process to reach its goal.

Like many expert systems, KBTools uses backward chaining, a commonly used method of deduction to draw inferences using the IF..THEN rules. The program starts with a question like 'how much will this building cost to build?' and searches backwards through the system to determine which of the rules in the inference net must be answered before it can reach a conclusion.

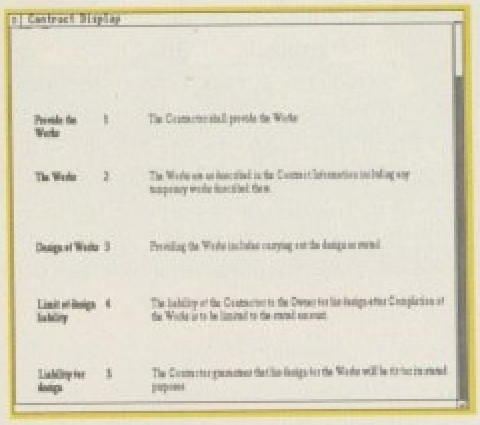
Like many professional users of the machine, Dr Basden cites the Amiga's operating system as being second to none, with power to match Unix but more efficient use of memory, not to mention its true pre-emptive multitasking ability. But like ESCOM, the company who have bought the Amiga technology, he was equally impressed by the computer's multimedia talents.

"From the hardware to the operating system, you've got this good integration between things like text, graphics, animation, sound and video that you don't get on any other machine," he commented. "From the bottom up they're all treated in the same way and that's important because as expert systems progress out of the text era you need to include multimedia clips. On the Amiga you don't need to do much work to get those things in."

The advantages Dr Basden points to are well illustrated by breakthroughs KBTool itself makes as an expert system. One impressive example is that the inference net – the heart of the program holding all the expert rules and controlling how they inter-relate – can all be easily constructed thanks to the system graphical use interface. In fact, Dr Basden believes constructing a large inference net would be far more difficult without the Amiga's smooth scrolling capability.

Impressive though KBTools may be, however, Dr Basden is cautious when asked about the potential for expert systems and the future impact it might have on society. Asked if such programs might eventually give the public access to free legal and financial advice, for example, he replied: "I think it's fairly unlikely. It's technically possible but the problem is interpretation."

> KBTools, like other knowledge-based systems, is designed to capture expertise on computer in a form that can then be shared with non-experts



An exert from a custom-made contract that the Amiga might eventually draw up

He went on to explain: "With knowledge-based systems as opposed to, say, databases, you have an element of interpretation both for how to answer the questions and how to interpret the results."

The problem is, the only people with the experience to make these interpretations are the professionals which the expert system is imitating in the first place. Consequently, those hoping that the INCA project will remove the need for the lawyers in a building contract are going to be disappointed.

On the other hand, Dr Basden argues that it should cut down the need for litigation. "Where we've found it useful," he explained, "is in helping people to clarify their ideas and clarify their real requirements. It will help contractors and employers find out what they really want from a contract."

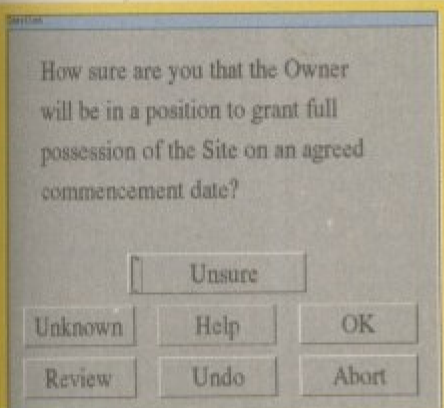
IN USE

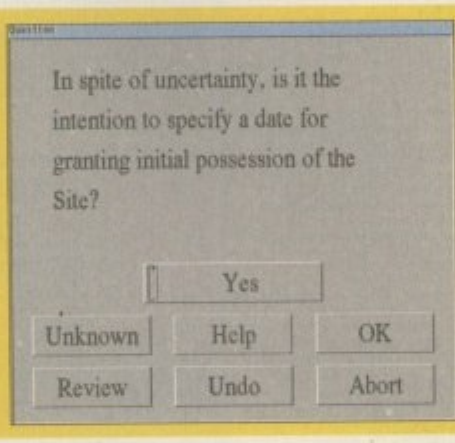
A similar PC project which Dr Basden contributed to prior to INCA shows how useful expert systems can be in practice. Named ELSIE, this tool was used by surveyors to help clients plan the costing of proposed building projects.

ELSIE allowed people to experiment with their building project until they found a plan with the right cost. They could see, for example, how the addition of a swimming pool would affect the eventual price of their proposed development. In addition, ELSIE could then produce a report on how it reached its conclusions.

Expert systems were born at about the same time as the now omnipresent spreadsheet, but clearly they have a long way to go before they are used so widely. As the name KBTools suggests, they are currently best used as an aid to help experts and non-experts reach mutually satisfactory agreements.

Though progress in this area has been slower than the early optimists had predicted, however, you can't help feeling that KBTools points towards greater things. After all, they said computers would never beat a human chess genius, yet the AI program Deep Thought has already beaten Kasparov, the best player there's ever been. It will be interesting to see if the expert systems of tomorrow are accomplishing similarly impressive feats. AC





KBTools can cope with grey areas and still go on to find a result

That's what I call Magic!

Frank Nord has a first look at a contender for file manager of the year

For a long time now I've been going on at readers of my regular column in the back of the mag to get a file management program. In the past I've always told people to buy Directory Opus, but since my somewhat unfavourable review of the newest version, I've been unsure about continuing to recommend Opus. Along comes DiskMagic in an attempt to soothe my furrowed brow, but does it succeed?

Maxon is a company familiar to German Amiga users, but less so to people in this country. Until recently, the only Maxon package we saw over here was the world's only commercial Amiga screen blanker package, a bizarre concept if ever there was one. But Maxon are a most prolific company with a word processor, database, 3D package and CAD package under their belts, not to mention their range of programming languages including BASIC, C and Pascal.

What has this got to do with DiskMagic? Well, DiskMagic was originally released in Germany as Maxon Tools, and it maintains the same teutonic sophistication as Twist and Maxon Magic. DiskMagic is so highly configurable it will probably mean that no two copies of it look alike. Like Directory Opus 5, DiskMagic can be run on the Workbench or its own screen and supports both more traditional windows and the fixed versions favoured by previous versions of DOpus.

It also makes use of several separate preferences editors rather than the all-in-one program that made DOpus 4 so quick and easy to configure. Unlike DOpus 4, DiskMagic lets you set up multiple banks of buttons that can be either text or icons, and allows you to crop the buttons from pictures, rather than using icons or individual pictures.

But DiskMagic's biggest feature is its ability to work with LHA archives as though there were normal directories; double-clicking on an archive will result in it being read and displayed as if you had double-clicked on a directory entry. You can then copy the files from the archive into the other directory window and they will be extracted from the archive as you do so.

FILE COPYING

Talking of copying files, DiskMagic lets you copy them in the normal fashion by selecting a file or files and hitting the copy button. Alternatively, by holding down a preset qualifier, like the right mouse button, you can simply drag the mouse over to the other directory window. This will put a little box under the mouse pointer that either gives the name of the file you are dragging, or a message saying "All selected files."

DiskMagic is full of nice little touches like this one that just add to the product's appeal. For instance, there are a whole set of default screen layouts, plus some user-defined ones, that can be swapped between at the touch of a button. The picture viewer has a setting that allows you to set a time for each picture shown, rather than having to click the mouse button, so DiskMagic can become a simple slide show viewer. On a more complex note, you can set up mouse button actions (including a middle mouse button) for clicking in almost any place on the screen, and you can set up hotkeys for moving through directories with the cursor keys.



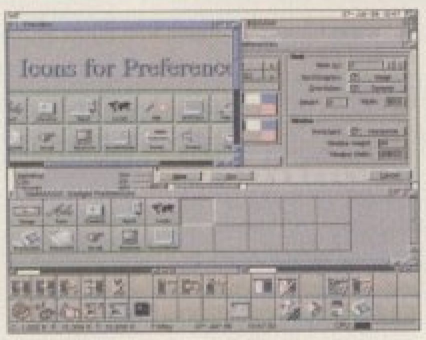
The new face of file management

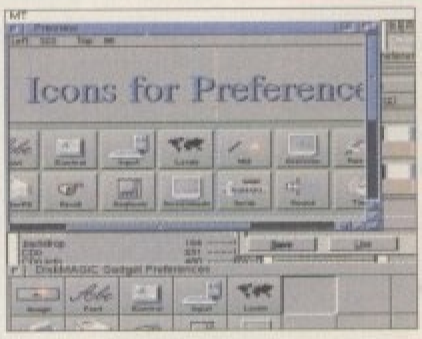
One feature of the configuration tools being separate programs that is a good idea is the fact that the configurations are saved separately by each configuration tool, which means they can be replaced modularly, as can the configuration tools themselves, allowing for an easier upgrade path.

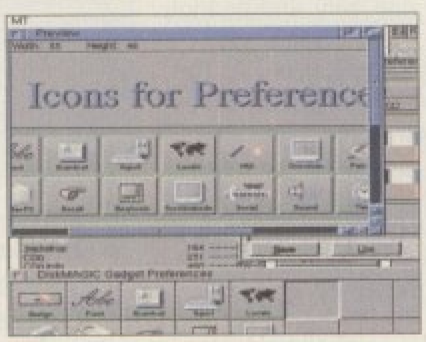
The preferences editors themselves should pose no problems for DOpus veterans, after all there are only so many ways you can lay out a button bank editor. DiskMagic caters for all the expected categories including internal commands, external (AmigaDOS) commands, ARexx scripts and batch files. It also has a fairly compatible list of internal commands and modifiers (you know, the {f} things).

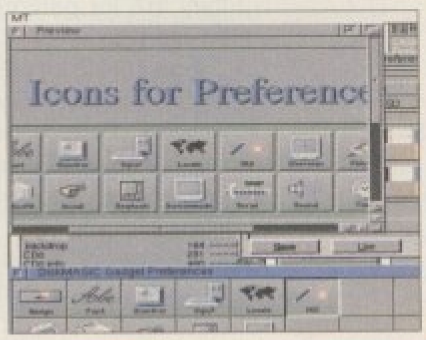
Building a better bank

As you can see from this sequence of pictures, DiskMagic's method of building new banks of gadgets is beautifully simple. First, go to the gadgets editor, then load an IFF picture. Select the button in the bank you want to add a picture to, then click and hold your left mouse button down on the picture in the top-left corner of the icon you wish to use. When your crosshair is suitably positioned and you let go of the mouse button, DiskMagic will ask you for the co-ordinates for the bottom-right corner of the icon, so all you need to do is repeat the process.









The final word

It would appear that DiskMagic is a bit of a cross between DOpus 4 and DOpus 5. It has the multiple preferences editors and fluid window positioning that DOpus 5 offers the user, but the source/destination, non-multitasking simplicity of DOpus 4. Actually, this approach is probably ideal for people who are familiar with DOpus 4 but unsure about upgrading to the latest version. Being a halfway house makes DiskMagic feel a little unfriendly to use at times, but overall this is quite a good contender for a replacement for DOpus 4. This is only a preview – DiskMagic is about three weeks away from release as I type this, but it's looking good already.

Makin Music



Makin Musik is another collection of music tools including samples, MODs and demo versions of music editing software, and anyone who's been reading our CD coverage will know that similar products in the past have fared badly with this reviewer.

The problem with most products of this nature is the samples are thrown together in no particular order, or at best they are arranged alphabetically so that techno comes right next to tango. There may or may not be good material among the thousands of files these discs contain, but finding it can take days.

Despite its cheesy name, however, Makin Musik have gone some way to redressing this problem by properly dividing its samples and MODs into logical categories. Admittedly, it's not always clear why some samples are in a particular drawer, but in comparison to CDs like Town of Tunes, this disc is a dream to use. Thousands of the samples have been taken from the professional AKAI libraries, so the quality should be high. In fact, the word sample is slightly misleading since these sounds are actually digitally transferred from their AKAI sources and converted from 16-bit to 8-bit for use with the Amiga.

Categories range from the ubiquitous house beats and synth sounds to less usual drawers such as 'Film-score', 'Cyber-Polis' and 'Comedy.' The latter type of categories include sound effects, making them of interest to videographers as well as music buffs.

Mods are also available in abundance, and can be loaded into players or trackers, allowing users to learn how they've been created. However, since some of them are rather tacky, a lot of people will just rip out the better samples, of which there are numerous examples.

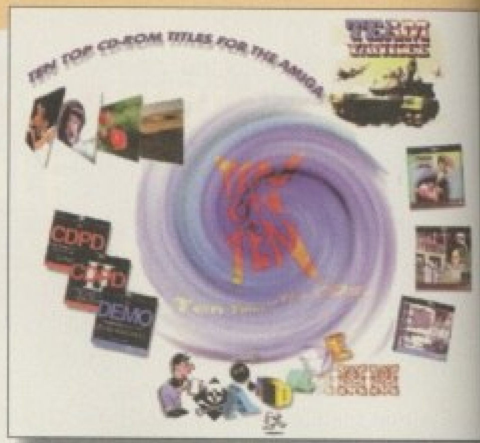
With a range of demos of the best commercial software to try before you buy, the CD provides exceptional value for money. Let's hope that more musical libraries take note of this compilation's well-organised approach.

The bottom line

Product: Makin Musik
Price: £24.99
Supplier: BPD Exchange
Tel: 01603 261060

Ease of use 8
Implementation 9
Value for money 8
Overall 8

Ten on Ten



Considering most CDs come with over 600Mb of data, one thing you can rarely complain about is the price. Almathera, however, have aimed for the ultimate CD bargain with the release of a 10 disc bundle at under £40.

Obviously, at that price a good deal of what's on offer is rather old – the ancient CDTV title, Pandora, being a case in point. Essentially just a collection of demos made by Optomica, it now looks very dated and is less than perfectly adapted for use with a normal Amiga.

Undeniably, some of the CDs are just filling space – there is the illustrated Shakespeare disc, but who wants to read a play off a computer screen? Other material is old but worth a look, though mainly because it comes so cheap.

Falling into this category is World Vista Atlas, a CD that features some good ideas which merit a more modern update. Users can zoom in on any location in the world to gain maps of increasing detail, and there is cross-referenced statistical information on all sorts of culture and population data. Unfortunately, the maps are poorly scanned and the interface doesn't work particularly well with a mouse. A picture library containing images from around the world, for example, requires so much fiddling that it's hard to get the right image on screen.

CDPD 1 and 2 are worthy utilities' compilations that will contain the odd treasure for everyone except owners of more recent versions of the series, and a demo disk i

Laser gu

Multimedia Toolkit 2

It's good to see Weird Science back on form with a double CD collection that improves substantially on the original Toolkit collection. A compilation of images, sounds, 3D and backgrounds, this product will be handy for applications ranging from DTP to video.

Unlike the vast majority of Amiga CDs, what distinguishes Multimedia Toolkit is the fact that most of the content is **not** PD. Take the image banks on the disc, for example – most of these were furnished by a professional photographer employed by Weird Science. This means that the quality is unusually high, though on the downside they are for personal use only and cannot be redistributed.

Equally impressive, however, is the highly user-friendly interface which takes Amiga CD a step nearer to the accessibility we ought to expect. Everything is summarised on an AmigaGuide and can be viewed or played at the click of a button.

Images can all be quickly previewed via a catalogue option in thumbnail size which yields the usual time-saving benefits, and the categories available have been wisely selected for backdrop and video work. There are pictures of landscapes, cloudy skies, sunsets and water, all of which can be used to good effect in presentation packages like SCALA. Otherwise, the picture library seems to have been compiled with an eye to providing useful categories for as many applications as possible.

Octamed v.5.04 has been included and can be run directly from the disk or installed

The bottom line

Product: Multimedia Toolkit 2
Price: £29.99
Supplier: Weird Science
Tel: 0116 2340682

Ease of use 9
Implementation 9
Value for money 8
Overall 9

thrown in for good measure. At the other extreme, however, there is entertainment in the form of the commercial tank sim, Team Yankee. With a strategic gameplay in which the player must control a team of tanks with 3D real-time displays, this title should appeal to the more mature Amiga owners likely to buy the package. The fact that it's currently being advertised as a £15 budget game means that buyers are getting a bargain here alone.

A CD dedicated to black and white clipart features material for DTP and wordprocessing that maintains a level of quality equal to the usual full-priced compilations available. There's also a disk of colour images featuring aircraft, animals and all the other usual categories with a demo of the amazing Photogenics 1.2.

Unique to the collection – and possibly the most useful of the CDs included – is Almathera's Network, Comms and Internet collection. This contains information on how to get surfing combined with the necessary software like AmiTCP v2.3b and tools like Archie and Gopher. Overall, Ten on Ten's contents are rather too dated to excite CD-ROM owners who already possess a number of more recent releases. Still, there is some worthwhile material to be found and it will make a good starter pack for anyone who's just bought a drive.

The bottom line

Product: Ten on Ten
Price: £39.99
Supplier: Almathera
Tel: 0181-687 0040

Ease of use	**6**
Implementation	**6**
Value for money	**9**
Overall	**7**

idance

For months now Amiga Computing has been sorting the wheat from the chaff in CD-ROM, and the flood of new titles keep rolling in. Gareth Lofthouse analyses the latest four in our now regular, definitive guide



to HD. Impressively, the audio files (which have been provided by professional musicians) are automatically played on Octamed Player directly from the AmigaGuide – a very appealing little touch. In fact the music section of the compilation covers the entire second disc and would be attractive enough in its own right. One hundred fully-scored songs and instrumentals, and a vast collection of drum patterns, are augmented by a volume of audio bits and pieces that the developers liken to musical clip art.

Large 3D libraries have also been provided for both Imagine and LightWave along with the handy utility Show Object which allows for swift previewing and manipulation of the models.

Rivals need to take notice of a product like this, because there are too many compilers regurgitating the same old PD across different CDs. Weird Science are to be congratulated on producing heaps of fresh material in a highly usable format – this one comes highly recommended.

Aminet 6



The top-selling Aminet CDs are compilations of the best material for the Amiga available on the Internet, all conveniently bundled together on a single disc, and this month sees the release of the latest update.

For anyone who hasn't seen the collections reviewed previously, they are acclaimed because they mix some of the best examples of Amiga programs, graphics and audio in a general CD, with a user friendly AmigaGuide that automatically decompresses the crunched files.

While maintaining the general appeal of the Aminet CDs, the compilers have given the recent releases a particular focus, and this time the emphasis is on demos. The compilations have always led the way in sensible organisation of data, which is vital considering there are 1.1 gigabytes of information on this CD alone. The demos are divided into separate categories, with the best separated into a drawer so that users don't have to spend hours searching for quality.

Look out for Deep by Parallax, a typically trippy example of the demos available that distinguishes itself with some impressive graphic effects and its longer-than-usual duration. Other impressive examples were Full Moon and a Darth Vader animation.

Of course, plenty of more serious files are to be found, with 327 utilities, 56Mb of graphics software and 101Mb of mods, to mention but a few. It's this combination of fun and seriousness that probably makes Aminet CDs so popular.

It has to be said, however, that 2000 demos is hard to justify – after all, users only want to see them once and many of them really aren't very impressive. Aminet's superb organisation and sheer breadth of coverage still makes this update appealing, but I'm hoping the seventh disc will concentrate on something rather more worthwhile.

The bottom line

Product: Aminet 6
Price: £14.95
Supplier: Weird Science
Tel: 0116 2340682

Ease of use	**9**
Implementation	**7**
Value for money	**9**
Overall	**8**

Ben Vost gets scan happy with Gasteiner's sub-£400 super scanner

What a scan!

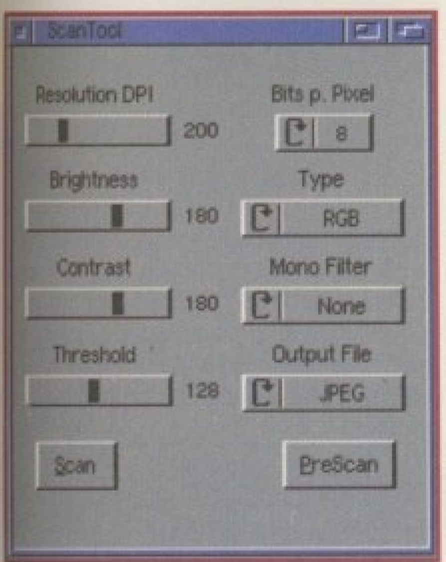


About four years ago I bought a Sharp JX100 for my Amiga. The JX100 was an 18-bit, 200dpi scanner which could only scan an area slightly larger than a postcard, but I loved it. Because I was working in the trade, I didn't have to pay the full retail price of £450 plus the £80 cost for the software, but it was still a large chunk of money to lay out.

Today, Gasteiner delivered a scanner that costs less than the price most people would have paid for the JX100, it can scan pages up to A4 and legal at 600dpi (2400dpi with interpolation), in 24-bit colour and it comes with the necessary software included.

I got it out of its large case and had a look. The scanner itself is made by a company called Artec and seems to be of fairly high build quality. A nice touch is the fact that the lid of the scanner isn't hinged directly onto the body of the unit but onto feet that can be raised, allowing the scanning of items thicker than a sheet of paper, an open book, for instance.

The scanner comes supplied with the necessary SCSI cable for hooking up a normal 25-way DSUB plug, as found on the back of all A3000s, to the scanner's 50-way Centronics sockets. On the other hand, there isn't a terminator included in the package, so you will either have to put something else at the end of your SCSI chain, or buy one. The scanner also comes with a CD-ROM and disk containing software for Windows users, along with a SCSI card for a PC, which is nice if you decide you absolutely must 'upgrade' your Amiga to a DOS machine.



The simple front-end for the Artec scanner software

On power up, the scanner goes through a whole series of self tests which take place over a period of about two and a half minutes accompanied by periodical groaning noises. Once you have made it through the self test, the scanner happily announces that it is 'READY TO SCAN!' and away you go.

REPRESENTATION

Scanning is a two-step process. First a preview scan is made at screen resolution. Once this is complete, ScanTools opens a screen showing a representation of your scan on which you can draw a box for the final area you wish to scan. Unfortunately, even if you only wish to scan a tiny area, you still need to wait for ScanTools to scan its entire available area before you can set the part you want.

ScanTools also won't let you rescan the preview at a higher magnification, allowing you to zoom in on the area you wish to scan for greater accuracy. On the other hand, the changes you make to the contrast and brightness settings are shown in the preview, which makes for speedier tone correction. I say tone correction because the preview display can only be shown on a greyscale screen with between two and 16 shades of grey.

One of the other problems with the ScanTools software is the fact that although Gasteiner's ad for the product states that the scanner is capable of scanning at 2400dpi (with interpolation), the software only allows for scanning resolutions up to 600dpi. There is also no support for the optional automatic document feeder, but the software seems to be updated on a fairly regular basis judging by the readme file on the distribution floppy disk, so it's a good possibility that support for both these features will be added in the near future.

In conclusion, I would have to say that, notwithstanding the limitations of the provided software, the Artec Viewstation A6000C is without doubt the cheapest good quality flatbed scanner I have ever seen. If your Amiga doesn't have a SCSI port, Gasteiner will no doubt be very happy to sell you one of their Oktagon SCSI controller boards.

Scanning tools

The software that comes with the scanner for the Amiga is fairly basic but works fine. You have control over the resolution, brightness and contrast of your scan and you can scan in either 12-bit or 24-bit colour, 8-bit greyscale or mono lineart. There is an additional threshold control if you are going to use the lineart modes which controls how dark a colour has to be before it gets converted into a line. There is also a filter for greyscale operations which allows you to take colour separated scans by filtering only red, blue or green.

These are all pretty standard tools for any scanning package, but the thing that really sets ScanTool apart is the fact that you can scan an A4 page at 600dpi with only a limited amount of RAM – it would normally take roughly 170Mb. However, that amount of memory has to be available somewhere, so if you do intend to make such incredibly large scans, you'd better make sure you have that amount of space free on your hard drive.

There is also a version of the Scantools program that is accessible as a loader inside AdPro. The interface remains exactly the same as before, the only difference being that you now have to have enough RAM to hold the image in memory.

The bottom line

Product: Artec Viewstation A6000C
Supplier: Gasteiner
Price: £399
Tel: 0181-345 6000

Ease of use	**8**
Implementation	**8**
Value for money	**10**
Overall	**9**

Heavenly

Ask anybody about the Amiga's key strengths and its graphic capabilities ar usually rated fairly near the top. LightWave, Imagine, Photogenics, TV Paint - the list of first class professional software that proves the Amiga's superiority i this field is impressive to say the least.

Then there's the matter of its natural disposition towards professional video work, wit the excellent VLAB motion video editor being just one example of the top class hardwar available. Add to that powerful DTP and WP packages and there's a lot for the machin to boast about. When it comes to showing off these packages at their best, however, th user needs a high-quality monitor. It's ironic, then, that a machine that boasts so man visual treats is often let down by being combined with a poor monitor.

Cybervision, the powerful RTG card reviewed elsewhere in this issue, emphasises th point because without a monitor, many of its high resolution screenmodes are unusable Unfortunately, Commodore's monitors were never up to some of the high-end capabil ties that accompany the Amiga, so where should you turn if you want crisp displays a super-high resolutions ?

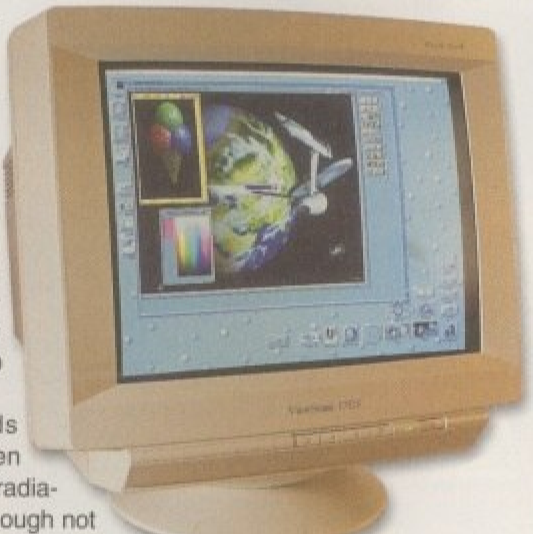
In answer to this question *Amiga Computing* has brought together some of the bigges names in monitor manufacturing. As always it's horses for courses, but whether you budget is big or small it shouldn't be to hard to find a display to suit your requirements.

Viewsonic 17"GS

The new Viewsonic GS immediately distinguished itself by being considerably lighter and more compact than its rivals. This may not sound too important, but when you see how cumbersome the NEC XE17 is, even with its tilting stand, it obviously counts for something.

The GS is another monitor featuring on-screen control menus, and while this doesn't look as good as on the NEC, the superior accessibility of the buttons mean it's better to use. A side benefit of its small size and minimalism in terms of external controls is that it's also the best looker in our view.

With a dot pitch of 0.27, a supercontrast screen, and a double dynamic focus system, image quality is as sharp and flicker free as you could wish for. More uncommonly, however, the addition of the Viewmatch colour control system allows the white of an image to be adjusted as well as the R and B signals; this has the advantage of ensuring the monitor gives true to life colours.



Safety standards have also been taken to an extreme, with radiation emissions low enough not only to beat MRP2 but also the TCO 92 standard. With an FST to reduce eye strain and a fully adjustable stand, the GS is a good choice for anyone spending long hours in front of a screen. As with the other big monitors, power management circuits are included, making the GS good for your electricity bill and the environment. In other words, its feature packed with a quality display and an average street price of £570, making it a good rival for the Visionmaster.

For the Amiga user, however, the GS (through no fault of the manufacturers) is not as flexible as the Ilyama. Unable to sync down as low as the Viewmaster, it can only really be recommended for use with a RTG board.

The bottom line

Product: Viewsonic 17GS
Price: £749 RRP
Supplier: Viewsonic
Tel: 0181-781 1856

Display	9
Features	8
Value for money	8
Overall	8

NEC 17XE

A monster in terms of proportions, this desk-buckling model from NEC is another 17 inch high quality model. It's also about the ugliest piece of equipment you can attach to your Amiga I've ever seen.

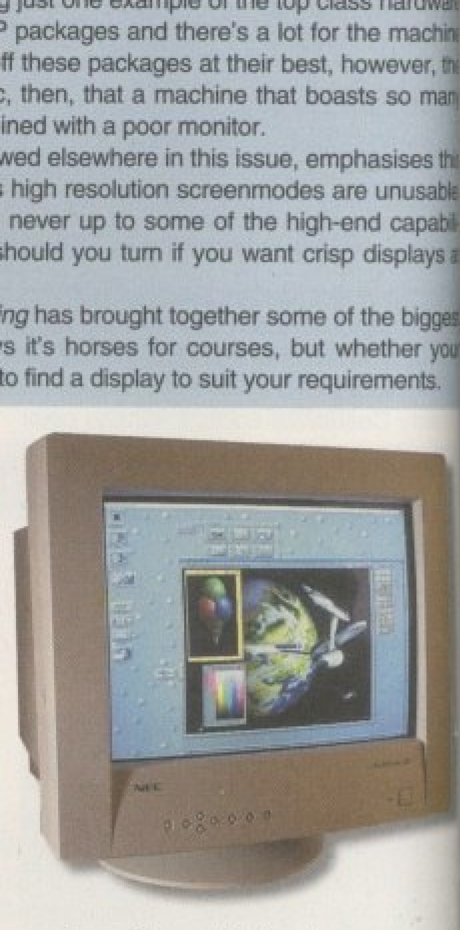
Not that this matters at all since it's the visual appeal *on-screen* that really counts. In this respect the NEC is suitably impressive with sharper images benefiting from dual dynamic beam focus – a newly incorporated technology that improves focus for a cleaner picture from corner to corner.

The XE is a multisync that can handle up to Cybervision's 1152x900 mode, and more with a certain amount of flicker. This is really as high a resolution as your eyes can cope with on a monitor of this size anyway, so for any more detail we'd recommend a 20 inch plus.

Unfortunately, owners of RTG cards are the only ones who can use the NEC owing to the fact that it won't sync down low enough to cope with the standard AGA Hi-res modes. On the other hand, Amiga owners who need this sort of quality display will often be using a graphics card anyway.

Controls for the NEC are made up of a combination of external buttons and an impressive on-screen menu which the user navigates using the up-down-left-right buttons mounted on the monitor's facia. This should go a long way to making picture adjustments less fiddly and comprehensive than has been the case with the usual tiny button approach.

I say should because while the on-screen menu is a great idea, the buttons for using it are much smaller than they should have been. Plus, it's only fair to say that a



number of them didn't work – we can on hope this is due to the fact that the revie model had been knocked around on i travels from magazine to magazine.

That aside, the 17XE combines a high quality display with some impressive inno vations. It's not the machine that raises doubts so much as its pricing, which eve taking the average street price of £68 seems uncompetitive with th Visionmaster 17 inch.

The bottom line

Product: NEC XE17
Price: £959 RRP
Supplier: NEC
Tel: 0181-993 8111

Display	9
Features	8
Value for money	6
Overall	7

visions

Now that Commodore monitors have disappeared, buying a display that shows off the Amiga's potential seems more difficult than ever. But, as Gareth Lofthouse and Tina Hackett discovered, there are plenty of options available

Amitek 1084-S



Following the disappearance of Commodore's basic range of monitors, there's been a gap for a third-party developer to fill with a basic budget monitor for games and Lo-res purposes. Now Amitek have come up with the goods in the form of this 14 incher.

Sadly, if our review model was anything to go by the quality of its construction seems rather poor. Controls hidden behind a cover flap were fiddly and in some cases useless when it came to adjusting the picture. Clarity and depth of colour also seemed rather dull, though that was to be expected in comparison to the pricey 17 inch models reviewed.

Fewer excuses can be made, however, for the fact that we had to stick a piece of cardboard down the side of one of the control knobs just to get a stable picture – obviously this raises doubts about its durability.

It's a shame I can't do more to recommend the Amitek, since the Amiga market really could do with a £200 basic model for game playing. The truth is, though, there's no way I'd trade our ancient Phillips classic for the Amitek as it stands.

The bottom line

Product: Amitek 1084-S
Price: £196
Supplier: First Computers
Tel: 0113 2319444

Display	5
Features	6
Value for money	7
Overall	6

Microvitec 1438

A problem with some Hi-res monitors is that some users find they are not flexible enough to suit their needs. However, an all round solution is a Multiscan monitor. These support various screen modes and will automatically sync to the signal put out by your Amiga, as long as the screen mode is within the monitor's KHz range.

The multiscan's frequency range of 15-40 kHz allows the monitor to work with the most popularly used modes such as Hi-res No Flicker and Productivity, but it can sync down to 15kHz so it's compatible with Lo-res games.

What is irritating is that there is no way of adjusting the overscan to make the picture fit your screen. The end result is a messy looking alignment with black margins taking up part of the screen.

Designed with price in mind you really are only getting the basics. There's also a lack of ports such as a composite video connection – a useful feature for home video work. But if you want a multiscan monitor that will play games and manage the AGA screen modes then this provides value for money.

The bottom line

Product: Microvitec 1438
Price: £299
Supplier: First Computers
Tel: 0113 2319444

Display	7
Features	6
Value for money	8
Overall	7

Philips Pro 2000

The Philips Pro 2000 gives you a monitor *and* a television for one competitive price. The cynic who may think that a combination of both at this price would lead to a compromise of quality will be pleasantly surprised.

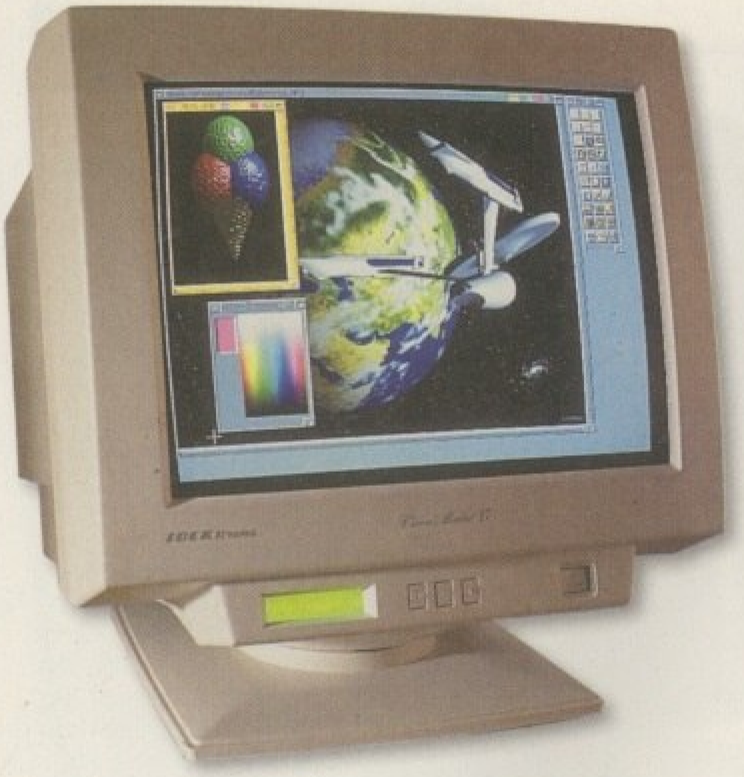
The screen is a respectable 17 inches which is a good size for a bedroom TV, and its extra size makes it ideal for playing games on. Picture quality is also of a high standard and has a 2000 character resolution. As a television it also impresses with FastText TeleText and 60 channels, while in-built speakers are provided too which saves splashing out extra on audio.

The 2000 also has a flat screen – an uncommon feature on other monitors of this ilk. However, those who like their monitor to match their Amiga will be disappointed – the Philips Pro 2000 is black. But overall, if you're after this sort of hybrid, then this provides excellent value without compromising on quality.

The bottom line

Product: Phillips Pro 2000
Price: £239
Supplier: Harwoods
Tel: 01773 836781

Display	7
Features	8
Value for money	9
Overall	9



Ilyama Vision Master 17"

Ilyama may be a long way from being the household name that NEC has become, but when it comes to monitors they're up there with the best and this big beauty alone has played a major part in winning the company a few of its awards.

With a 17 inch display, the MF-8617A is hefty both in terms of weight and the size of its footprint. Shockingly big proportions are not unique to the Ilyama alone, however, and it's a small price to pay for an improved display that's more comfortable on the eye.

In terms of aesthetics, it's otherwise perfectly attractive with a case that features smart, clean lines surrounding a FST screen. Like all the best monitors, it's ergonomically designed with a tilt and swivel stand that means once it's set up on your desktop, adjusting it to suit your view is very simple – an important consideration when you realise how bad working postures affect people's health permanently.

While on the subject of health, the monitor's level of radiation emissions is below the stringent MRP2 standards set by the Swedish government. Though no one has ever proven that monitors cause miscarriages, it's better to be safe than sorry.

MULTISCAN

With the side issues dealt with, its time to look at the monitor's performance. The first point to mention is that the Visionmaster is a multiscan, which basically means it can deal with a wide range of resolutions. Unfortunately, for those hoping to vary serious usage with a bit of gameplaying, this is still not possible on this model – the lowest it will sync to is 27.0.

Picture clarity is exceptionally crisp and sharp thanks to the Visionmaster's unusually high calibre dot pitch (0.26) and the use of Hitachi's best quality tube. In addition, the benefits of the FST screen are enhanced by the simple addition of an anti-static, anti-reflective coating.

The 17 incher picks up further brownie points because it was the only monitor to come with two VGA cables, one of which is designed to take advantage of the higher quality BNC connectio[n]. Naturally, the back of the monitor fe[a]tures five ports to accommodate t[he] alternative connection.

As should be expected with a prof[es]sional monitor, there's a huge array [of] controls, including less usual options [for] picture adjustment like Trapezoid (p[ic]ture slant) and Raster Rotation (t[ilt]). These are accessed using three butto[ns] and an LCD menu system, which is pe[r]haps less easily used than the mo[re] modern on-screen controls that [its] review rivals boasted.

In fact it's very hard to find fault w[ith] the 17 inch model. Aggressively pric[ed] and packed with all the little extras [a] professional user could ask for, t[he] Ilyama was the only monitor that cou[ld] deal with both Amiga Hi-res along w[ith] Cybervision's super Hi-res modes. T[he] MF8617A remains the all-round winn[er] for the serious user.

The bottom line

Product: Ilyama MF8617A
Price: £599
Supplier: Ilyama
Tel: 01438 745482

Display ______ 9
Features ______ 9
Value for money ______ 8
Overall ______ 9

Ilyama Vision Master 15"

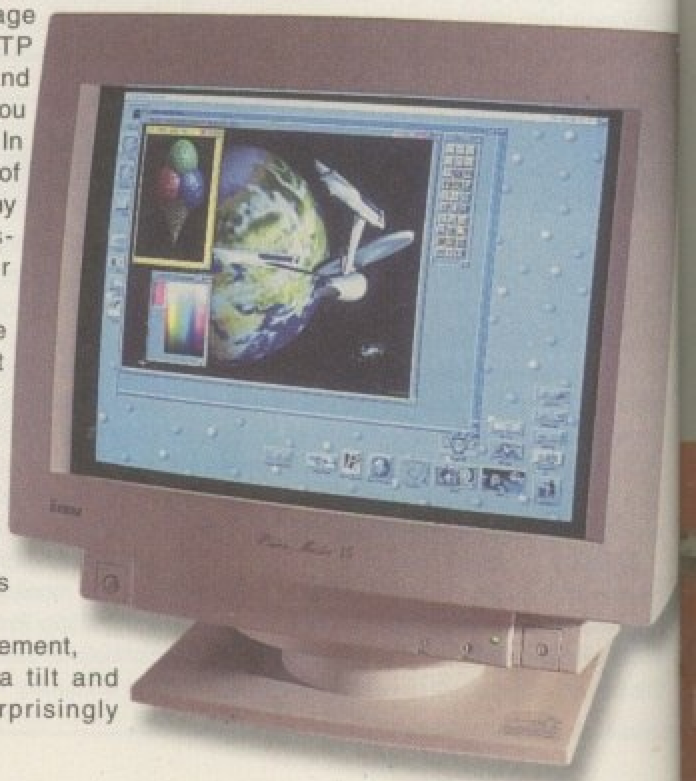
This 15 inch monitor may lack its big brother's refinement – the LCD control system is replaced with the traditional fiddly knobs, for example – but at least it still offers a lot in terms of performance for the price.

Surprisingly, the monitor worked fine with the Cybervision RTG board's lower resolutions (for example, 1024x768) as well as many normal AGA Hi-res modes. The only shame is that it still doesn't help the game player since it won't sync down to 15 Hz.

Picture quality is noticeably inferior to the 17 inch models, though it's still good enough for the average user undertaking DTP and graphics work, and at the end of the day you get what you pay for. In fact, with a dot pitch of .28 it will still give many more expensive displays a run for their money.

Despite the absence of fancy adjustment controls, Ilyama have wisely kept most of the picture alteration options included in much more expensive models, again making it attractive for serious users on a budget.

With power management, solid construction, a tilt and turn stand and surprisingly good image quality, this is well wort[h] a look for the non-games playe[rs] who can't afford more expensiv[e] options.



The bottom line

Product: Vision Master MF-8115
Price: £299
Supplier: Ilyama
Tel: 01438 745482

Display ______ 7
Features ______ 8
Value for money ______ 9
Overall ______ 8

Apollo Ac

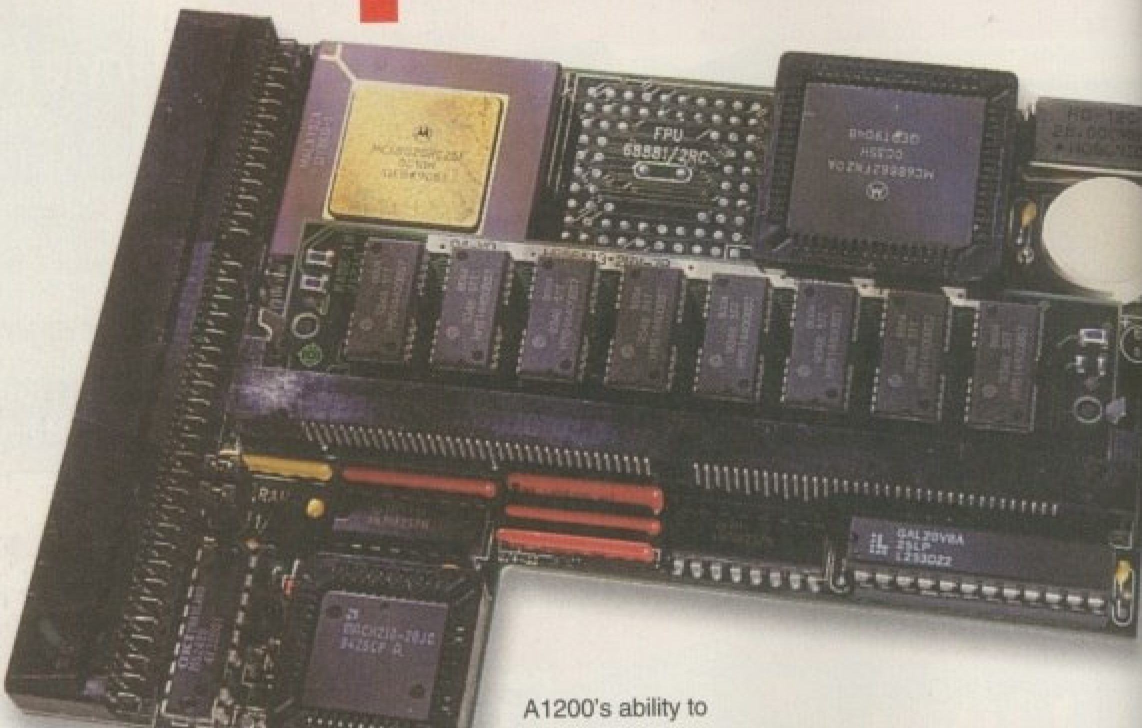
There's no getting away from it you know. Once you get a computer, you will eventually succumb to the urges of acquiring more power as your computing needs grow. And, ironically, when you do spend some cash on an upgrade, it's not long before you find you are needing even more power.

It's like some hideous form of addiction, and one that is fed by products such as the Apollo 1220 accelerator. Accelerator cards are probably one of the most craved for upgrades among A1200 owners.

At one time, RAM upgrades were the most popular, but these have been superseded by accelerator boards which also incorporate RAM sockets along with the faster CPUs and FPUs.

In fact while we are on the subject of RAM, not many people realise that just adding FastRAM can significantly speed up your A1200 – just take a look at the benchmark results (see benchmark box) of a standard A1200 and one with 4Mb RAM.

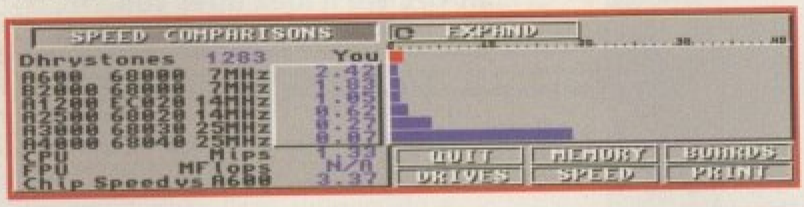
The Apollo is a low-cost accelerator which uses a 28MHz 68EC030 compared to the A1200's built-in 14MHz one. Also fitted as standard is a 68882 FPU also running at 28MHz which increases your A1200's ability to perform maths and is essential for applications such as Imagine and other maths-intensive programs.

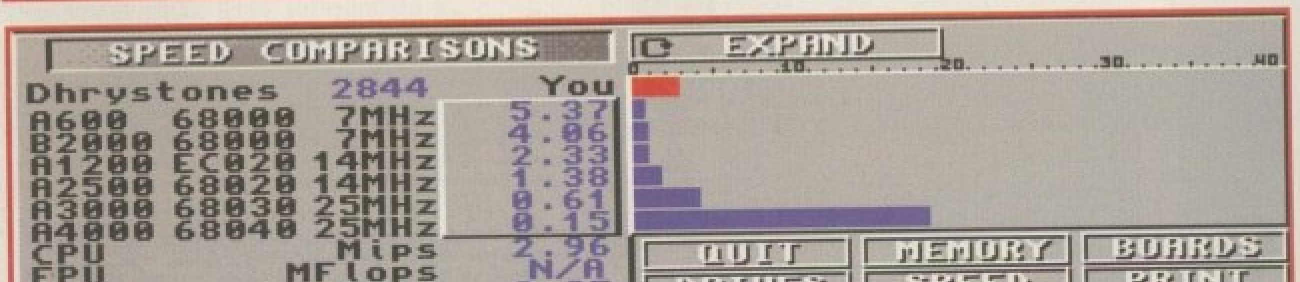


I was a little disappointed to find you are limited to 1 or 4Mb configurations using a single SIMM socket which takes a 72-pin SIMM – I guess that's the price for the relatively low cost of £99.95. For the ti[...] conscious, there's also a real-time ba[...] tery-backed clock fitted to keep yo[...] A1200 ticking along with the rest of t[...] world.

A concern for many PCMCIA prod[...] owners when buying accelerator cards[...]

Simply adding FastRAM to your Amiga greatly speeds it along. Here are the results of an unexpanded A1200 and one with 4Mb RAM





Apollo specs

- 28MHz 68EC020
- 28MHz 68882 FPU
- 1 X 72-pin SIMM socket (1 or 4Mb[...]
- PCMCIA compatible
- Battery-backed real-time clock

What to look for

There are more and more A1200 accelerator boards appearing all the time. We will also soon see '040 and even '060 accelerators appearing in the near future. Many boards are very similar in performance and features, so, here's a quick list of points to look for in a board when shopping around.

How many SIMM sockets does it have?

Any accelerator worth its salt should have SIMM sockets for installing RAM. Some boards have two sockets and some have only one.

Two SIMM sockets are obviously preferable to one. If, for instance, you wish to upgrade your current 4Mb RAM capacity to 8Mb, you would have to essentially sell your present 4Mb SIMM and buy an 8Mb one if you have only one SIMM socket.

If you have two, you can simply buy an additional 4Mb SIMM and save quite a bit of cash.

What CPU does the board feature?

There are different methods used by accelerator boards to speed up your computer. As many of you may know, your average A1200's Central Processing Unit (CPU) is a Motorola 68EC020. This runs at a speed of approximately 14 megahertz.

Some boards simply use a faster version of the standard 68EC020 found in all A1200s which are running at higher speeds. The Falcon 1220 reviewed here, for example, uses a 68EC020 running at 28 Megahertz, twice the speed of the one soldered within your A1200. Alternatively, more expensive boards use a completely different, and much more powerful CPU such as a 68030. To further confuse things, Motorola a[...] manufacture different varieties of their chips a[...] these are used on many accelerator boards. [...] therefore worth knowing what the differenc[...] are when shopping around.

For example, the 68EC020 has a 24-[...] address bus which essentially means it can o[...] use up to 16Mb of memory. A full 68020 ha[...] 32-bit address bus and can use much larg[...] memory capacities, theoretically up to 4Gb. [...] a 68030, things are different again. Unlike [...] 68020s, the 68EC030 and the 68030 both ha[...] a 32-bit address bus. However, the EC vers[...] does not contain a memory management u[...] (MMU).

Accelerator boards which take advantage [...] the 68030's MMU can use virtual memory u[...] ties such as the commercially availab[...] Gigamem and public domain alternatives su[...] as VMM. These utilities are virtual mem[...]

celeration

Do you feel a need for speed? Then the Apollo 1220 accelerator board may be for you. Darren Evans takes it for a test drive

whether it is compatible with the PCMCIA slot. Some accelerators conflict with this slot, throwing up performance problems when using products connected to it. Visage claim the Apollo is compatible with the PCMCIA interface. We used the Apollo board extensively with the Squirrel SCSI interface and experienced no problems whatsoever.

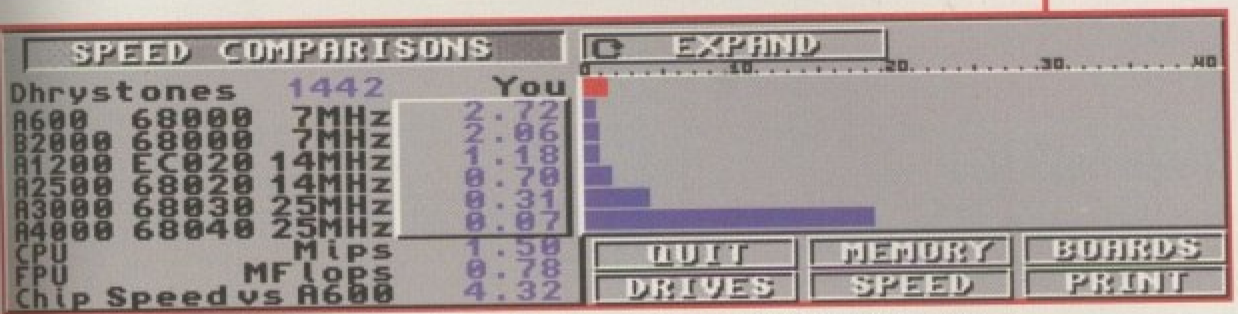
As for general performance, the Apollo does not achieve a great performance leap without FastRAM. Once you fit RAM to the single SIMM socket though, it really speeds away. There are many accelerator boards which are as badly designed as the A1200 trapdoor itself, tending to be extremely difficult to fit and equally difficult to remove should you wish to add bigger FastRAM or even FPUs. The Apollo is quite compact, making it easy to push into the tight confines of the trapdoor, and easy to get a grip on when you need to remove it.

COMPACT SIZE

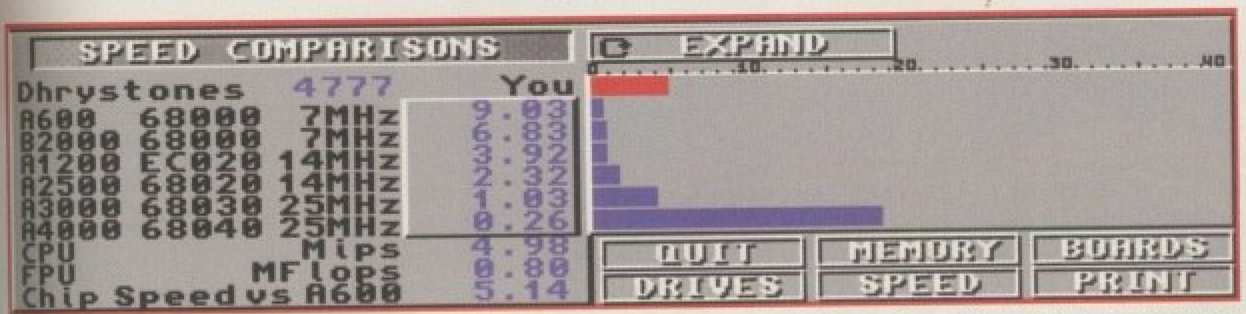
One slight problem which may rear its ugly head is that the compact size of the card may cause problems when fitting some SIMMs. The single socket is situated such that only SIMMs which have surface-mounted chips on one side will fit. If you happen to have some RAM handy, or you are offered some second-hand RAM, be sure it isn't the type which has chips on both sides of the SIMM or it won't fit.

Once installed, the Apollo certainly made Workbench more responsive with icons and windows appearing on the screen and generally moving at a much more responsive speed, especially in the higher colour depth screen modes. Loading up a few flight sim games also produced much improved and smoother animation.

The Apollo certainly provides a great improvement to the speed of your A1200 and at quite a good price too. AC



There's not a massive leap in performance from the Apollo card when used without any FastRAM



With 4Mb of FastRAM, the Apollo really takes off. In fact, it appears to be slightly faster than a 25MHz 68030 based A3000

The bottom line

Product: Apollo 1220
Supplier: Visage Computers
Price: £99.95
Phone: 0115 9642828

Ease of use	8
Implementation	7
Value for money	9
Overall	8

managers which allow you to use your hard disk as extra memory for the CPU. If you want to use such utilities, make sure the accelerator board has an MMU.

With the imminent arrival of 68040 accelerators for the A1200 such as the Falcon, it's worth mentioning the differences between these.

Three versions of the 68040 are available, the 68040, 68EC040 and the 68LC040. The 68040 features an MMU as well as a built-in floating point processor (FPU) for speeding up calculations. The 68EC040 has an MMU but lacks the FPU. Finally, the 68LC040 has neither FPU or MMU.

It will be interesting to see which of the '040 chips will be used for A1200 accelerator boards and even more interesting to see how they deal with the problem of keeping the 040s cool in the limited space of the trapdoor.

Does the accelerator have any upgrade features?
Some of the more recent boards being manufactured today have extra upgrade features such as SCSI 2 add-ons. These allow you to add SCSI devices to your Amiga such as CD-ROMs, fast and large SCSI hard disks, DAT tapes, Tape streamers and other exotic peripherals.

Is the board compatible with the PCMCIA port?
Some boards conflict with the PCMCIA slot and cause problems with PCMCIA products connected to it. Most manufacturers have recognised this problem and are now specifying whether their boards are PCMCIA compatible. Check with your supplier for any reports of conflicts

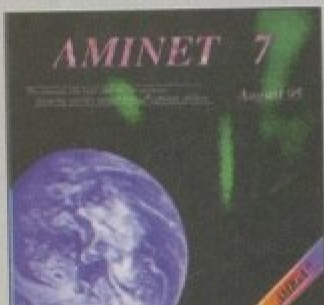
Does the board have an FPU disable feature
Some software, particularly some games, do not like FPUs. This is relatively rare these days, though. It would be nice if you could disable the FPU via some jumper without actually having to remove the FPU itself.

Does it come fitted with an FPU?
An FPU further speeds up your Amiga by allowing complex maths to be handled by an FPU. This allows the main CPU to get on with other tasks while the FPU does all the hard work and just passes the result back.

Some programs won't work without an FPU and some are too slow to use without one. Programs such as LightWave and Imagine make heavy use of maths and an FPU is a must.

Some boards come with FPUs already fitted, while others require you to buy them at additional cost.

D-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...CD-ROM...



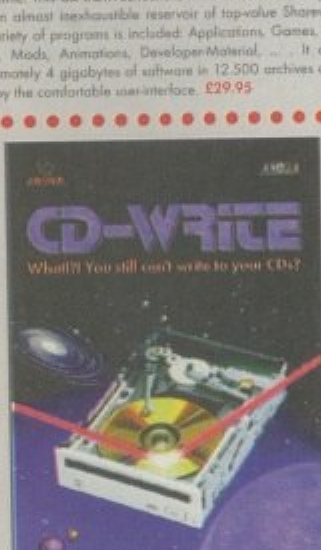
Aminet 7

Aminet CD 7, dated August 1995, consists of approximately 1,1 gigabytes of software in 3600 archives. Since the release of Aminet CD 6 more than 540 MB new software has appeared. The current edition has a special focus on images, more than 10000 images from Aminet were included. User friendly access software makes the Aminet CD 7 a pleasure to use. £14.95



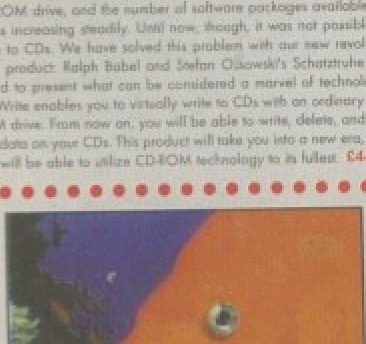
Aminet Set 1

Aminet is the world's largest collection of freely distributable Amiga software. Up to 10.000 users access the vast archives every day and countless programmers publish directly via Aminet. Until recently access to Aminet was restricted to international network users. With Aminet Set 1, consisting of 4 CDs, the complete archive is published the first time. This CD-ROM-collection, which is dated January 1995, offers an almost inexhaustible reservoir of top-value Shareware. A wide variety of programs is included: Applications, Games, Demos, Pictures, Mods, Animations, Developer-Material, ... It contains approximately 4 gigabytes of software in 12.500 archives and you will enjoy the comfortable user-interface. £29.95



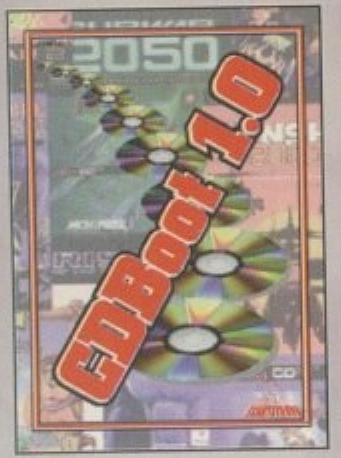
CD-Write

What!?! You still can't write to your CDs? CD-ROMs have long been an essential part of Amiga computing. Many users already own a CD-ROM drive, and the number of software packages available on CD is increasing steadily. Until now, though, it was not possible to write to CDs. We have solved this problem with our new revolutionary product: Ralph Babel and Stefan Ossowski's Schatztruhe are proud to present what can be considered a marvel of technology: CD-Write enables you to virtually write to CDs with an ordinary CD-ROM drive. From now on, you will be able to write, delete, and modify data on your CDs. This product will take you into a new era, and you will be able to utilize CD-ROM technology to its fullest. £44.95



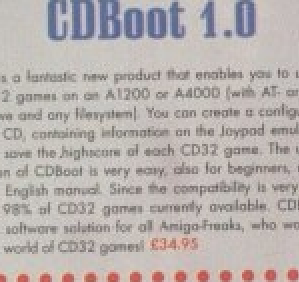
FreshFish 10

The FreshFish CD-ROM-series, produced directly by Fred Fish, provides Amiga users with hundreds of megabytes of the latest freely redistributable software. Published approximately every two months, each volume is a two CD set containing new submissions since the latest volume, as well as an ever growing selection of tools, libraries, documentation and other useful material that is updated with every



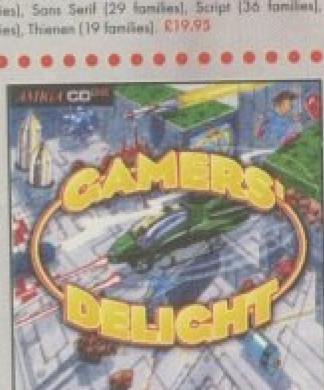
CDBoot 1.0

CDBoot is a fantastic new product that enables you to use almost any CD32 games on an A1200 or A4000 (with AT- or SCSI-CD-ROM drive and any filesystem). You can create a configuration file for each CD, containing information on the Joypad emulation. You can also save the highscore of each CD32 game. The usage and installation of CDBoot is very easy, also for beginners, due to the excellent English manual. Since the compatibility is very high, you can use 98% of CD32 games currently available. CDBoot is an excellent software solution for all Amiga-Freaks, who would like to enter the world of CD32 games! £34.95



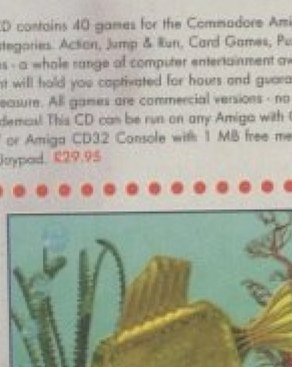
FreshFonts II

The FreshFonts II CD-ROM contains 632 megabytes of fonts for almost any computer system. Most of the fonts are freely distributable, except for the Thienen fonts, which are exclusive on this CD. Each of these fonts is included in four different formats: DMF, Agfa IntelliFont, Adobe and TrueType. There are 231 font families on this CD (each containing of up to 8 different styles). They are classified in seven categories: Deco (63 families), Non-Latin (33 families), Pictures (16 families), Sans Serif (29 families), Script (36 families), Serif (36 families), Thienen (19 families). £19.95



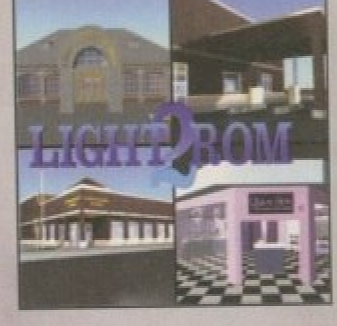
Gamers' Delight

This CD contains 40 games for the Commodore Amiga from differing categories. Action, Jump & Run, Card Games, Puzzles, Strategy Games - a whole range of computer entertainment awaits! Gamers' Delight will hold you captivated for hours and guarantees long-lasting pleasure. All games are commercial versions - no public domain & no demos! This CD can be run on any Amiga with CD-ROM drive, CDTV or Amiga CD32 Console with 1 MB free memory and Joystick/Joypad. £29.95



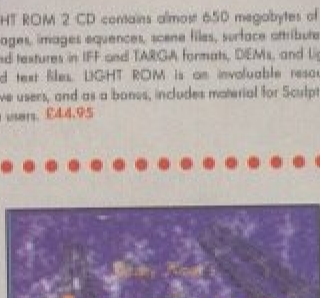
GoldFish 2

Volume 2 of the GoldFish series contains a selection of software, animations, pictures and other material released on FreshFish CD-ROM's between October 1993 and November 1994, with most of the material updated to the latest available versions. All material is included in both archived (BBS-ready) and unarchived (ready-to-run) forms.



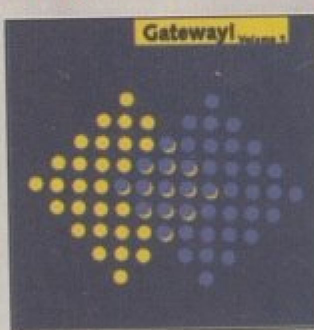
LIGHT ROM 2

The LIGHT ROM 2 CD contains almost 650 megabytes of 3D objects, images, images equences, scene files, surface attributes, bump maps and textures in IFF and TARGA formats, DEMs, and Lightwave rela- ted text files. LIGHT ROM is an invaluable resource for Lightwave users, and as a bonus, includes material for Sculpt 3D and Imagine users. £44.95



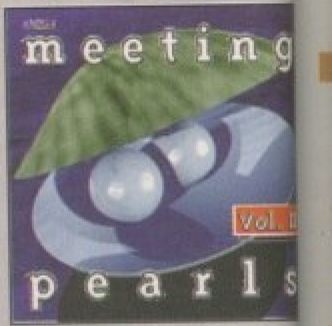
da capo

The da capo CD-ROM is a source for high-quality music, both for listening enjoyment and for samples to use in creating your own music. This is not just another random collection of modules. Many modules and samples are exclusively to da capo. Included are more than 1400 of the best available modules and 2000 high-qualioty samples. £27.95



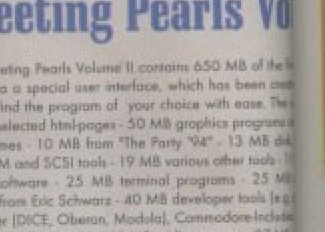
Gateway!

Gateway! offers NetBSD 1.0, a full featured UNIX-like operating system with both sources and binaries for the Amiga, i386, Sun 3, and other architectures. Go netsurfing with the large selection of supplied networking tools. Other supplied packages include a binary release of the X window system (X11R6) for the Amiga, with many additional clients, and packages such as perl, emacs, games, mail programs, and many megabytes of important text files such as RFCs and FAQs. A complete installation guide is available on the CD. There are also some AmigaDOS internet utilities, such as clients for AmiTCP and Envoy. £9.95



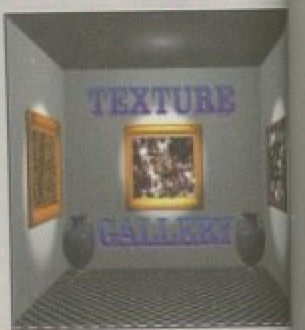
Meeting Pearls Vo

The Meeting Pearls Volume II contains 650 MB of the ... ware via a special user interface, which has been cre... you to find the program of your choice with ease. The ... MB of selected html-pages - 50 MB graphics programs ... MB games - 10 MB from "The Party '94" - 13 MB disk... CD-ROM and SCSI tools - 19 MB various other tools - ... tional software - 25 MB terminal programs - 25 MB ... mainly from Eric Schwartz - 40 MB developer tools (e.g. ... compiler (DICE, Oberon, Modula), Commodore-Include... - 9 MB music programs - 10 MB midi programs - 27 MB ... MB texts, FAQs, CD contents files, etc. - 40 MB linux fo... MB TeX installation (PasTeX incl. 600 dpi and fax fo... movie data base - 50 MB archives for Psion - 18 MB ... MB NetBSD for Amiga, ... £9.95



The Light Work

Raytracing - A fascinating area of the computer gra... from the computer, perfectly rendered, fascinate peop... world. The Amiga was the first computer to be used f... and today it is still a leader, with many high quality prog... artist of raytracing is Tobias J. Richter from Cologne ... whose detailed objects stun the people. Especially his ... famous science fiction films are used to demonstrate the ... of a raytracing program. The objects are highly ... extremly realistic due to the application of complex ... of the models. Until now it was difficult to acquire the... order to create ones own scenes or animations. £29.9...



Texture Galler

Texture Gallery is a 2 CD-ROM set containing over 1... textures designed for graphic artists. Included are hun... textures in several different formats, including IFF, ... PICT, SGI, and TIFF. These textures are perfect fo... programs like LightWave 3D and can be used to cre... All of the textures are represented in thumbnails rend... previewing. £44.95

All products are available in your local Amiga-s... or through national mail-order-companies

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The reverse process



Part 14

Paul Overaa provides some help for coders wanting to use amiga.lib and other C-style linker library functions from assembly language

Over the last couple of issues I've looked at various parameter passing techniques including the stack-based method used by languages such as C. We've already seen how functions written in assembly language can be called from a C program, but in this instalment I want to look at what is essentially the reverse process, namely the calling of a C-style routine from an assembly language module.

Why the interest in these C connections? To be honest it's not the C language itself (good as it is) which is important here - it is the fact that the C-style stack-oriented parameter passing method discussed in the last issue often has to be used to access linker library functions. This is because many of these libraries were either written in C in the first place, or were written using stack-based parameter passing in order to be easily usable by C programmers. The bottom line is that this is yet another area which, from a practical assembler programming viewpoint, it is useful to know something about.

One example of this type of stack-oriented arrangement is seen with the amiga.lib linker library. This contains not only the interface stubs and the associated LVO values which allow stack-based C compilers to call the register-based Amiga run-time library routines, but a host of other support functions as well. There are routines for creating and deleting tasks, ports and I/O request structures, a limited set of file and standard I/O functions (designed to work directly with AmigaDOS file handles), along with functions for pseudo-random number generation and so on.

Learning how to use these amiga.lib functions will stand you in good stead when you come to consider the use of other C-oriented linker libraries, and the good news is that there's nothing inherently difficult about it providing you appreciate C's parameter ordering conventions. Remember the parameters of a C function are pushed onto the stack in a right to left order and this implies (think about it!) that it will be the left-most parameter which is nearest to the top of the stack (just above the return address).

SETTING UP

This means that in order to set up this type of function call an assembly language program must push the rightmost parameters of the function first, and the leftmost parameters last!

One routine in the amiga.lib library is a printf() function that provides C-style formatted output. Programs that are started from a Shell window, or which run from the Workbench but have an stdout output window set up by the startup code, can use printf() for stdout style output.

Listing 1 is a typical example of how this function might be used and although it only consists of only five 680x0 instructions, this program can actually be assembled and run. You'll find this example on the CoverDisk as the file september_test1.s, and since I'm printing a text string with this code, two arguments, a format string and the text to be printed need to be provided. From C, this function call would actually look like this:

```
printf("%s", "This example uses the amiga.lib printf() function!");
         ^                       ^
         |                       |
  This is the             This is the
  format string           text to be printed
```

Admittedly from assembler a little more work is needed but only to set up and remove the function parameters. In the listing 1 code, for example, we start by using pea (push effective address) instructions to place pointers to both the text to be printed and the format string onto the stack (defined at the end of the source code using dc.b statements).

Having done that a jsr instruction is used to call the printf() function and the stack pointer readjusted to effectively remove the parameters. Notice how I've used the XDEF and XREF to keep the assembler happy, and have tagged an underscore onto the function name. The reasons for this jiggery-pokery were explained in the last issue, but what I want to do now is explain in more detail the steps needed to produce a runable program from listing 1.

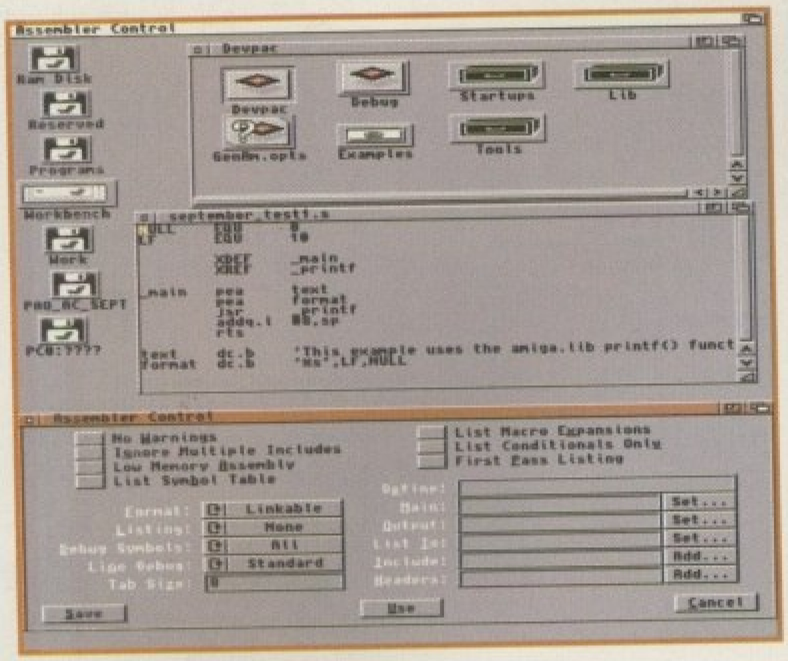
The first thing to remember is that the real code of the printf() function is present in the amiga.lib library, and we are going to have to link our program with that library if it is to work. This means that during assembly it is necessary to ask the assembler to produce LINKABLE code. Devpac, of course, can be set to produce a variety of different output file ➤

Beginner's corner

For the new Amiga programmer, library use can be the source of much confusion because the term 'library' is regularly used in two different contexts. Firstly, there are the so called 'linker libraries – disk files of useful functions arranged in a standardised format.

When a reference to one of these functions is found within a program it causes the construction of an equivalent 'unresolved' reference in the intermediate object code file. At link time the linker, with suitable guidance from the programmer, finds the library file that contains the function and physically copies the function code into the program being created. The other type of library arrangement you'll be regularly exposed to is the Exec run-time library system. The libraries such as intuition, graphics, gadtools, asl and so on (that you'll regularly find used in the *Amiga Computing* assembly language code examples) are all examples of exec-style libraries! Exec-style run-time libraries never become part of the real program code at all.

The libraries are opened as required while programs are running, and not only exist independently but are in fact written in a way which allows any number of different programs to use them simultaneously.



If you're using Devpac, remember to set the 'linkable' code option when assembling this month's examples

```
NULL        EQU         0
LF          EQU         10

            XDEF        main
            XREF        _printf

_main       pea         text
            pea         format
            jsr         _printf
            addq.l      #8,sp
            rts

text        dc.b        'This example uses the amiga.lib printf() function!',NULL
format      dc.b        '%s',LF,NULL
```

Listing 1: The september_test1.s source code

```
#include <stdio.h>
extern far char buffer[];

main()
{
printf("%s\n", "This printf() output is done from the C code");
printf("%s\n", "but the stcl_h() hex calculation itself is");
printf("%s\n", "being called from my assembler patch!");
mycode(); /* do the number to hex translation */
printf("%s %s\n","Result is ",buffer); /* and display the result */
}
```

Listing 2: The C portion of the september_example2 program

formats, so if you are using this assembler you must use the Assembler Settings menu option to select 'linkable' code output. Charlie Gibb's freely distributable A68k assembler, incidentally, will produce linkable code automatically.

Most assemblers will give linkable object code modules a '.o' filename extension by default and you also should stick to this convention. The source file september_test1.s, which you'll find on this month's CoverDisk, should therefore assemble to produce an object code file called september_test1.o. In order to turn this intermediate file into a runable program we need to link some startup code, the september_test1.o module the assembler has produced and, of course, the amiga.lib library containing the printf() routine.

FINAL PROGRAM

If the Blink linker and all the other files required (i.e. the startup code, the amiga.lib library and the september_test1.o module) are in the same directory, then the final executable program can be produced very easily. Open a

```
            XDEF        _mycode
            XDEF        _buffer
            XREF        _stcl_h

_mycode                 move.l      #200,-(sp)
                        pea         _buffer
                        jsr         _stcl_h
                        addq.l      #8,sp
                        rts

_buffer                 ds.b        9
```

Listing 3: The mycode() assembler patch that calls the C hex conversion function

Shell window, make the directory containing the required files the current directory, and then type this command line:

```
blink astartup.obj september_test1.o to
september_test1 library amiga.lib
```

All being well you should then be able to run the resulting september_test1 program by typing its name at the Shell command line. Notice, incidentally, that I specified astartup.obj as the startup module. This is one of the modules provided with Devpac, but if you opted for a different startup module you would, of course, need to change the name on the command line accordingly. Similarly, if you changed the locations of any of the files then suitable filepaths would need to be added to the names used (otherwise the linker would not be able to find the files).

Some of you may be wondering why, since our resulting program is going to be run from a Shell command line, we can't just link the code without specifying a startup module. The reason the startup code has to be present is in order to ensure that a valid stdout output handle exists. One of the additional jobs that most startup modules (including astartup.obj) perform is to set up the standard I/O handles stdin and stdout. Unless this is done a call to printf() would crash the machine, so we must either link with a suitable startup module or set up the standard output handle ourselves.

This latter task is not particularly difficult, it just involves opening the dos library and making a call to it's Output() routine. Nevertheless, in order to keep the example code as simple as possible, I've opted for the startup module-based approach.

Something a little trickier to finish

If you've understood most of the material in the last two issues then this next example, which calculates the hexadecimal equivalent of a decimal number, should be of interest.

Although still only a very small program, it is a little more adventurous in the sense that I've chosen to take an 'around the houses' approach involving both the calling of an assembler patch from the C code and the calling of a C library function from the assembler patch.

The two sections of the program are shown in listings 2 and 3 and here's how they work: As the program starts the C portion of the code prints some text messages [this time using the C library printf() function]. It then passes control to the mycode() patch which pushes the value to be converted (I've arbitrarily chosen 200) and the address of a buffer for the returned hexadecimal string onto the stack.

The C function stcl_h() is then called to do the actual conversion, the stack adjusted to remove the parameters and an rts returns control to the C portion of the code where one last call to printf() delivers the result (c8 hex) to stdout.

To create this program I first assembled the code shown in listing 3 as a linkable object code module. Having done that the C code of listing 2 was compiled and, along with the assembler patch object code module and library code, linked to the C compiler's startup code. This time, however, it was the standard C library, rather than the amiga.lib library, that was specified on the command line.

Well that's it! As far as the principles themselves go this is the last of our mixed code assembler/C discussions and next month we'll be back to some pure 680x0-based topics! Do remember, however, that mixed code techniques are of great practical importance so, even if you found some of the ideas hard going, it's worth persevering with them. Study the code, run the examples, and in general try to get a 'gut feeling' for what has been said over the last two or three issues.

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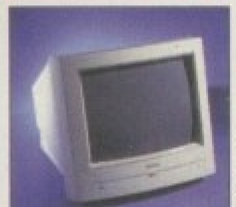
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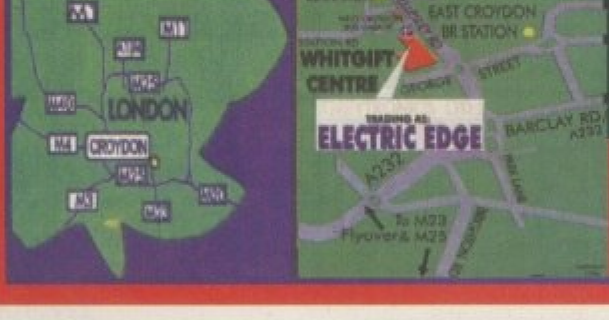


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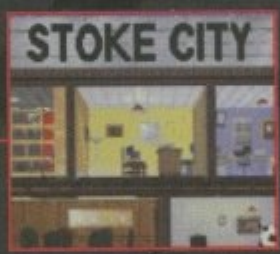
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Sid Meier's latest strategy game under the spotlight



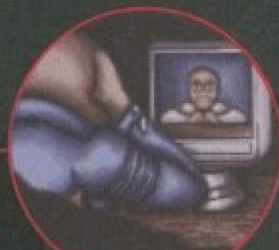
Behind the Iron Gate

Can Black Legend's latest 3D shooter really be Doom for the Amiga?



Player Manager 2

Anco's popular football management sim is back boasting a wealth of new features



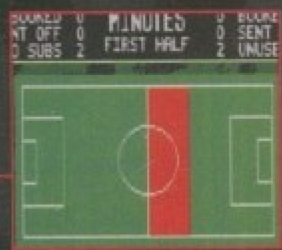
Timekeepers

Will Vulcan Software's new title cut the mustard with puzzle fans?



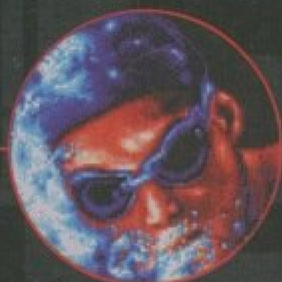
Sensible Golf

Sensible Software's golfing sim scores an eagle with our reviewer



Top of the League

System physio gives this sim the once over



Budgets

The latest cheapies rounded-up and reviewed

CD32

Acid Software's racer, Super Skidmarks, and Rasputin's Base Jumpers re-released for the CD32



Features

Peripheral port ticklers

Take your gaming to a whole new level. We take a look at the peripherals available for your Amiga



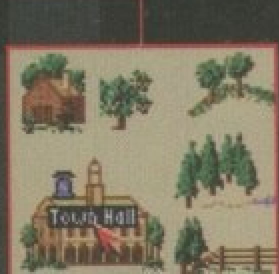


Team 17 update

Progress is fast being made on some new Amiga titles. System take a preview

Competition

MicroProse goody bags are up for grabs



SYSTEM

news

By Tina Hackett

Anyone for tennis?

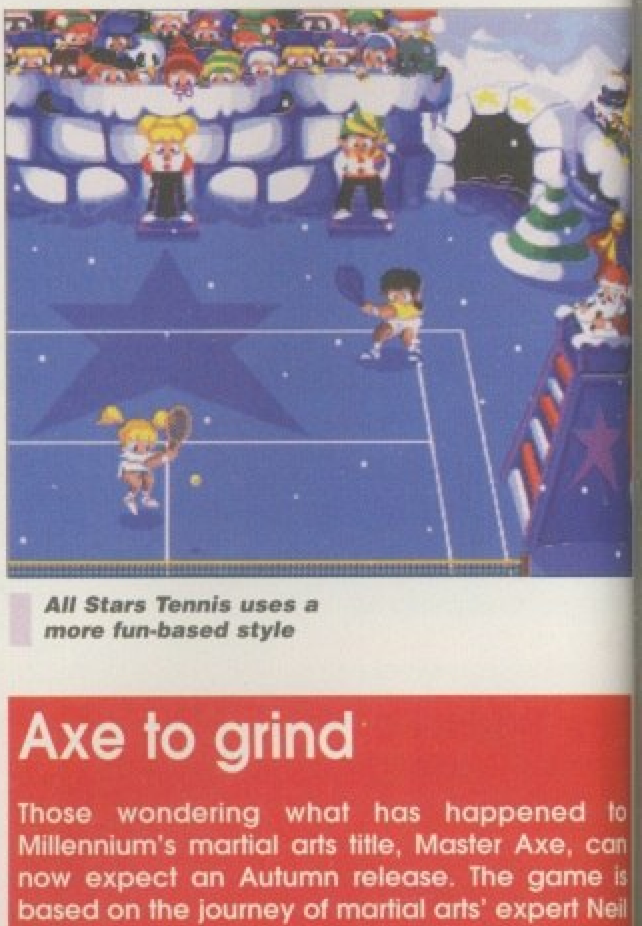
Tennis simulations usually stick to a rather serious angle but new company, GameWave, have a rather fresh-looking approach to the sport. Using charming cartoon sprites and a range of brightly coloured backdrops, their aim is to make the game as fun-looking as possible.

GameWave are the collective talents of Michael Oakley, Alan Carter and Andrew Oakley, and at the moment they are seeking a publisher to market the game on the Amiga, PC and consoles. Andy and Mike already have an impressive past record working with software houses such as Team 17 and Sega. To date, they have been responsible for the graphics in Alien Vs Predator, Assassin and Alien Breed 3D, so it's a bit of a change of direction for them.

All of the game's 11 characters have their own characteristics such as varying strengths and weaknesses, so a different playing style is required with each game. Weather varies according to location and countries include Australia and the North Pole. You also have the usual four courts to choose from: clay, indoor, grass and cement. An ice court will provide a bonus level that you access when you reach the end of a tournament. After winning a competition you will get a password for the Power Play game where you are given bombs and turbo and other devious ways of winning.

Centre of attention

Also on the subject of tennis, Guildhall Leisure Services, the marketing firm that deals with Acid Software products in the UK, have announced a possible tie-in for their new game, Centre Court with tennis hero, André Agassi. A release is expected this summer and a retail price of £19.99 for the Amiga, and £25.99 for the CD32 and A1200 looks likely.



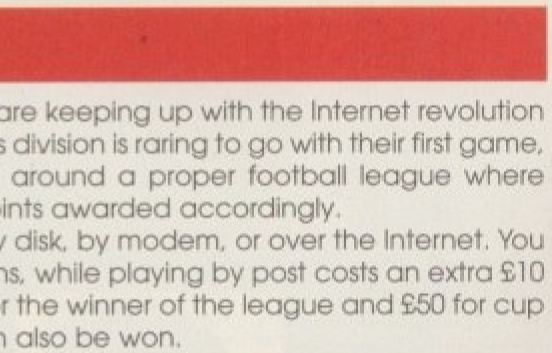
All Stars Tennis uses a more fun-based style

Internet Milan

Wakefield based software house, Team 17, are keeping up with the Internet revolution with their latest venture. Their On-Line games division is raring to go with their first game, an Interactive Football League. It's based around a proper football league where each team plays each other twice, with points awarded accordingly.

You can either play via post with a floppy disk, by modem, or over the Internet. You pay £20 a season for these two latter versions, while playing by post costs an extra £10 but includes postage. £500 is up for grabs for the winner of the league and £50 for cup winners. Manager of the Month awards can also be won.





If the success of the fantasy leagues in newspapers are anything to go by, Team 17 will have a great success on their hands

Axe to grind

Those wondering what has happened to Millennium's martial arts title, Master Axe, can now expect an Autumn release. The game is based on the journey of martial arts' expert Neil Axe and his cycle tour across America.

Millennium are now looking at ways to release the game and one option under consideration is to release the title with a joypad from peripherals company, Powerplay. The pad has been endorsed by games celebrity, Dave Perry, and should add extra value to the package.

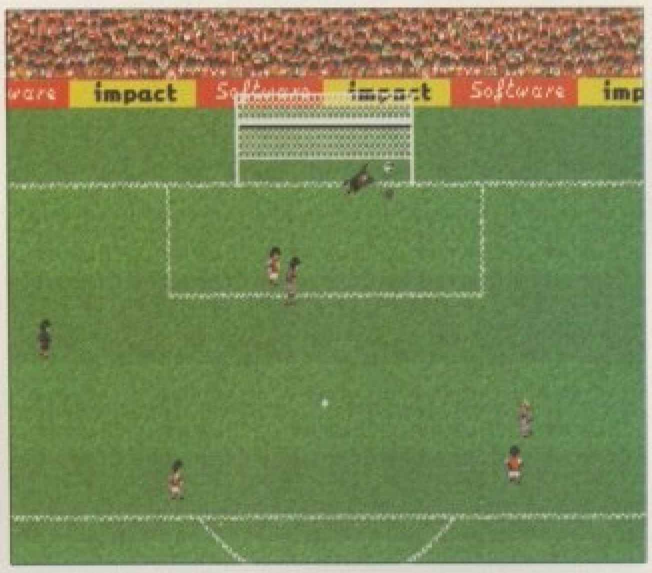
Struck Gold

Grandslam have a bargain in store for CD32 owners with their latest compilation, Game Gold. It comprises of three CD32 titles, the flight action game, Jetstrike, Nick Faldo's Golf, and cartoon racer, Bump 'n' Burn. It will be priced at £29.99

Calling all readers

This is the new look System. We hope you like it. As part of this redesign we are giving readers a chance to participate more fully in the section, so any letters, game tips or game queries can be sent to us at the usual address. (Please mark it 'System.')

As a result of our survey, we have also found that most of you would like to see more budget coverage and information such as Squirrel compatibility for CD-ROM games. The design in general has been revamped too, to give the section a bang up-to-date look. Let us know what you think so far.

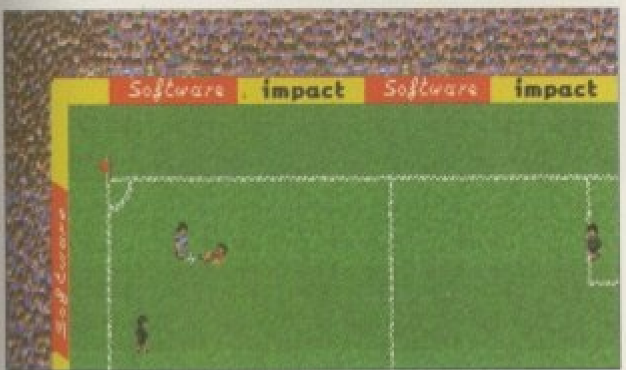


The spectator's chants and cheers will all be related to what is happening on the pitch

Team talk

Impact Software are a relatively new company to the Amiga, and their first offering will be a highly ambitious football simulation called Team.

Ralph Lovesy, Managing Director for the company, remarked: "The game will have a true 3D environment. This means the players will no longer go through each other or the goals. The ball will also rebound realistically off the cross bar or advertising boards."



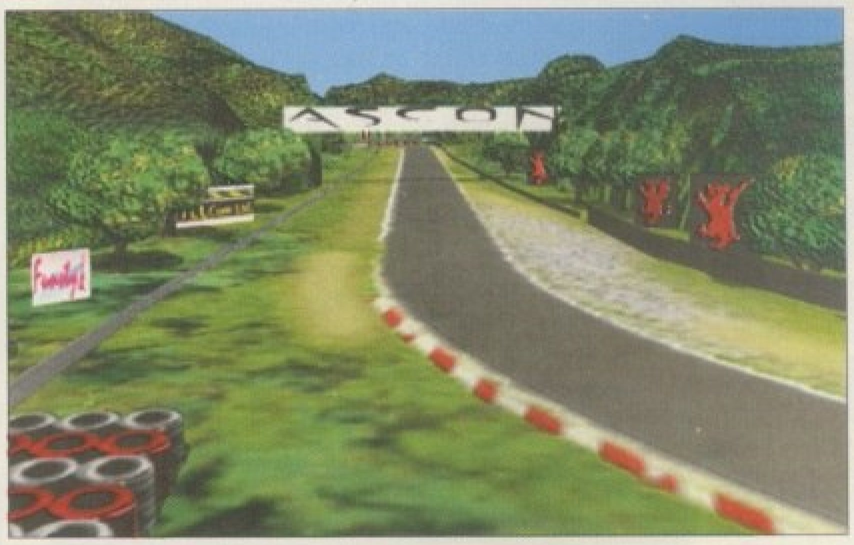
Team, the new football game from Impact Software

Other features will include a fully animated crowd around all the pitch wearing the appropriate colours. Their sound effects will actually be relevant to what's happening on the pitch too. Lovesy is eager to point out how realistic the game will be to play: "Pin-point passes, powerful shots, defensive clearances and subtle chips can be achieved in almost any direction remarkably easily to produce a game of instinctive, free-flowing football and sensational goals. We've also added directional control of shots to replace the unrealistic aftertouch method."

It sounds impressive but we'll have to wait until Autumn to see if the game lives up to the grand features it boasts.

Pole Position update

The latest news from Ascon is that progress is fast being made on their racing manager game, Pole Position. Their last success, On the Ball, heralded a new phase in the picture-based football management game and its World Cup Edition went straight to number two in the home computer charts. It's hoped that Pole Position will follow suit and also use this graphic style and picture-based approach. You take the role of managing a Formula One team that you have to take to the top, and will encounter all the problems a real manager would face.



Pole Position uses rendered Silicon Graphics to create TV-style coverage of each race

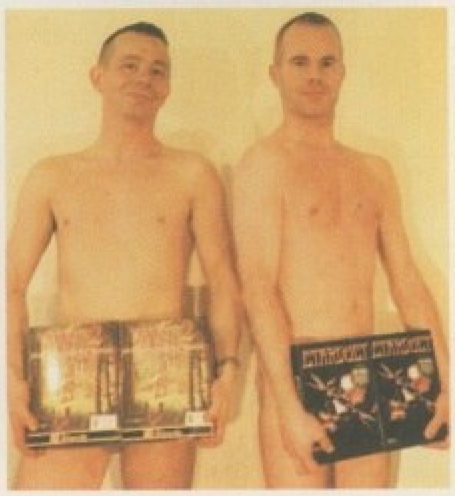
Cheap Tricks!

Due to the acquisition of Impressions by Sierra, Daze Marketing will no longer be handling this companies PR. So unfortuntaley, this marks the end of Amiga products from Daze (bar Pole Poistion from Ascon).

However, as a fond farewell and as a thank you to those Amiga owners who have bought their games, they are offering one last bargain.

Amiga Computing readers can buy the excellent Ishar 2 and stardust for only £6 each.

To get your hands on these two lovelies (we mean the games) send a cheque or postal order for £5.99 to Amiga Computing offer, Daze Marketing, 9A Canfield Place, London, NW6 3BT. (Both compatible with A500/1200)



Cheeky Daze chappies show their wares. (Photo not included with offer -sorry!)

GRAPHICS	92%
SOUND	87%
GAMEPLAY	94%
OVERALL	94%

PUBLISHER	Anco
DEVELOPER	Anco
PRICE	£19.99
DISKS	3
HD INSTALL	No
SUPPORTS	All Amigas

Without a shadow of a doubt Sensible Software are the definitive football game developers. Although, looking back over the years, Anco, the masterminds behind the Kick Off series have to be awarded the 'most consistency' trophy.

Kick Off was their first release which kicked up a tremendous following which inevitably brought around a sequel - namely Player Manager. Back then Anco was the only name that mattered within the football game industry. After the success of Kick Off 2 they looked unbeatable. Although it may not have had the polished graphics that Sensible Soccer had, for gameplay it could not be matched.

Player Manager 2 arrives five years after the prequel. Anco have had time to weigh up the competition, waiting, and only now deciding to launch their eagerly anticipated sequel.

When you begin the game you are allocated a club to run. This can be any team in division 2. At 28-years old your retirement is imminent, but you now have the opportunity to take on a job as Player Manager in division 2 - revitalising your footballing prowess. You can select which position you would prefer to play, from either a full-back to a striker, and can also select whether to control the entire team or just play as yourself in your selected position.

Once you enter the game and all the administration processes are sorted you will be on holiday. From here you can call people up - scouts, physios, specialists and coaches - and can assign them to your club before the game starts. Also, you must arrange five friendly matches to be played in the pre-season. Once this is complete you must speak to some companies who are willing to sponsor your club throughout the season.

You can access all the various options through some superb graphics. The first option is outside your ground which has the walls cut-out so you can see all the different rooms in your stadium. These vary from your office and the boardroom to where it all happens, on the pitch.

When you access one of the rooms it takes you to a more detailed view where you can click on notice boards, drawers, telephones etc. This is much the same way as On The Ball is operated, only there are more pictures and items to select. The idea is to get your team into a coaching programme and organise a training programme. You can select numerous ways to coach your team - from individual attention to five-a-sides. It is impossible to describe the coaching and tactical depth that is included in Player Manager 2 as it would simply fill up these two pages alone.

From your office you can organise team selection and transfers. All transactions you make in here are relevant to the actual team itself. You can call up the transfer list not just to buy players but to loan them too. Also, you can view all the club and player statistics to see the current form. If you want to play the game in depth there are many screens you have

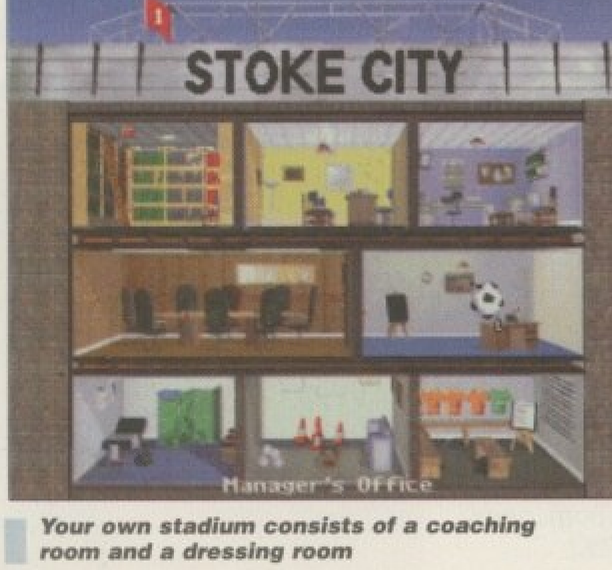


You are allocated a contract at the beginning of your managerial career

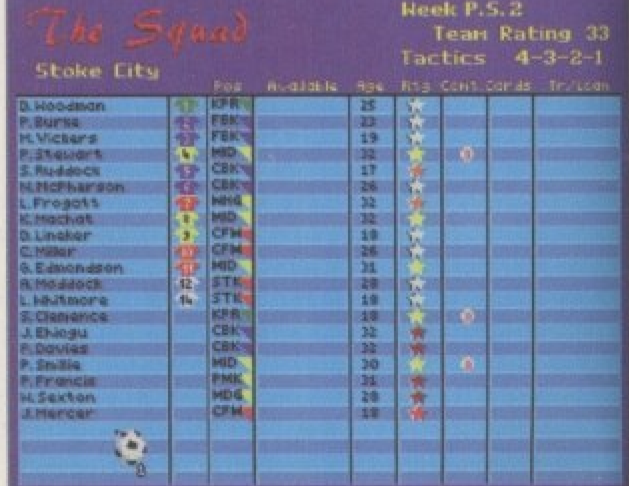
John Barnes still?

In Player Manager 1 – after taking your team from the depths of the, then, third division to the first – the challenge had basically disappeared. All that was left was the domestic trophy scene – there were no European competitions or international squads.

Being 28-years old in Player Manager 2, you are more or less 'past it' in terms of international football. Although boasting many caps from your earlier days, your international career is now believed to be over. But if you do manage to be a successful player in your last few years, it is possible to receive a call up and within days you will be scooting off to Bisham Abbey to train with the newly promoted youngsters. With data disks arriving later on from Anco, what's next? The England job itself? We'll have to wait and see.



Your own stadium consists of a coaching room and a dressing room



You can quicky access all the player information with ease



You can see that the graphics are very similar to Kick Off 3 although the action is viewed from much further out. This enables you to see where your team weaknesses are and you can put them right in the tactics editor

Player Manager 2

Reviewed by Andy Maddock



Organise a coaching program for your squad

to view before actually stepping out on the pitch, and this is where the true managerial feature comes into play.

The actual players each have their own unique statistics which range from their nationality to individual player history. Their ratings are determined in stars, with white stars representing the best players in that particular league, and the darker the star is, the less likely the player is to cope at your club. All the basic football attributes and rules are included – red and yellow cards, injuries and suspensions are all recorded and affect the team accordingly.

There is a special room on the top floor of your stadium where all the club's archives are kept. You can study every club in the league, looking at their history, records and current statistics.

A trip to the physio can be warranted if some of your players pick up injuries during the season. If it's something minor such as the flu then resting them for a day or two will bring them back up to full fitness. However, if it's more serious such as pulled hamstrings or back muscles, then a visit to a specialist is required.

Player Manager 2 doesn't include real players' names as such. This is a shame because it's difficult to assess the true value of players and make it exciting. For instance, it would be more interesting if Alan Shearer and Eric Cantona were involved in a brawl rather than B McNeil and T Harkouk – it would've added to the realism immensely.

Player Manager 2 includes immense realism. Your players can get injured in car crashes and even resort to brawls in nightclubs – which at the moment, is nothing short of unusual in today's game.

> ‘If you want a serious, statistcal football game with plenty of frills then **Player Manager 2** comes top of the list’

Final word

As it stands, Player Manager 2 certainly is better than Ultimate Soccer Manager and On The Ball. As for Sensible Soccer, it just cannot be compared. Player Manager 2 and Sensible Soccer are two completely different games. Sensible Soccer has to be the definitive arcade football game, but if you want a serious, statistical football game with plenty of frills then Player Manager 2 comes top of the list. Last month, Tactical Manager received a healthy score for boasting its statistics, but Player Manager actually goes a lot further.

With update disks promised from Anco, your version will be continually updated with new competitions, tactics and teams. At £19.99, this has to add up to one of the greatest football games to be released. If you enjoyed On The Ball's graphics and Championship Manager's depth and gameplay, this is undoubtedly the definitive management sim.

What's behind the iron gate? It could be anything? Suzanne Charlton covered in marmite bouncing up and down on a bungy rope? Nope



Behind The Iron Gate

Reviewed by Andy Maddock

GRAPHICS	71%
SOUND	63%
GAMEPLAY	65%
OVERALL	64%

PUBLISHER	Kompart
DEVELOPER	Black Legend
PRICE	£25.99
DISKS	2
HD INSTALL	No
SUPPORTS	All Amigas

Doom on the Amiga would be a dream come true for many owners out there. If you aren't particularly familiar with Doom or anything identical, I will explain. It's a 3D shoot-'em-up where you control a character who has several mission targets to destroy or complete. The main attraction to Doom has to be the graphics, with hugely detailed sprites used alongside very fast gameplay and tremendous depth.

I can understand the fact that Doom on the PC shouldn't be compared to anything similar on the Amiga due to its technical superiority, but it is obvious what these games are based on. Behind The Iron Gate is an attempt to re-create Doom by using the same methods – only cutting down on the parts the Amiga simply cannot cope with. Is it possible? Black Legend seem to think so.

The idea is to accomplish various small mission objectives. Unfortunately, it doesn't entail anything as involved and exciting as switching off tractor beams and escaping thermal detonators. Behind The Iron Gate seems to consist only of putting the odd key into a lock, which appears to open other gates to take you through to the next level.

On your way through the game you will come across a series of mechanical adversaries which can range from small mobile tanks to mechanically operated helicopters. To help you overcome these obstacles you can search the area for weapons,

> ' ...and as for sound effects, there is the **odd gun shot** and scream here and there... '

such as pistols, shotguns and lasers. You will also come across keys and scanners which are al[l] essential pieces of equipment.

As you pick them up you can select which hand to put them in. For example, you can have a pistol in your right hand and grenades in your left. This becomes much easier when you are attacking the enemy because it enables you to switch between each one with the utmost of efficiency and ease. A password system is also included to gave you a little more help, so you can note it down and restart whenever you feel is appropriate.

The graphics are surprisingly fast – smooth too. Most people believed the Amiga wasn't fast enough to accommodate Doom, but going off this you do begin to think it could be possible. However at times it tends to zoom off at a horrific rate, leaving you with no control whatsoever and facing the wrong direction.

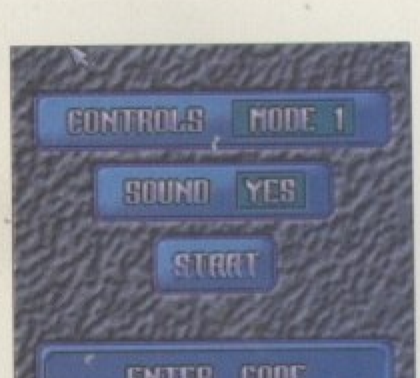
The music is fairly atmospheric, suiting the action reasonably well, and as for sound effects, there is the odd gun shot and scream here and there but nothing too exceptional.

The colours are simple, with blue walls for the first level which gradually become a dark red. There certainly isn't an abundance of colour leaping out which makes it look very boring – and it actually is. It doesn't really boast any action-packed adventure, and after a good while the actual playing part will become nothing more of a chore. Inevitably boredom will set in.

Final word

From the screenshots shown here your first impression will be Doom. You must wipe that thought from your mind completely and hope for a more realistic version in the future.

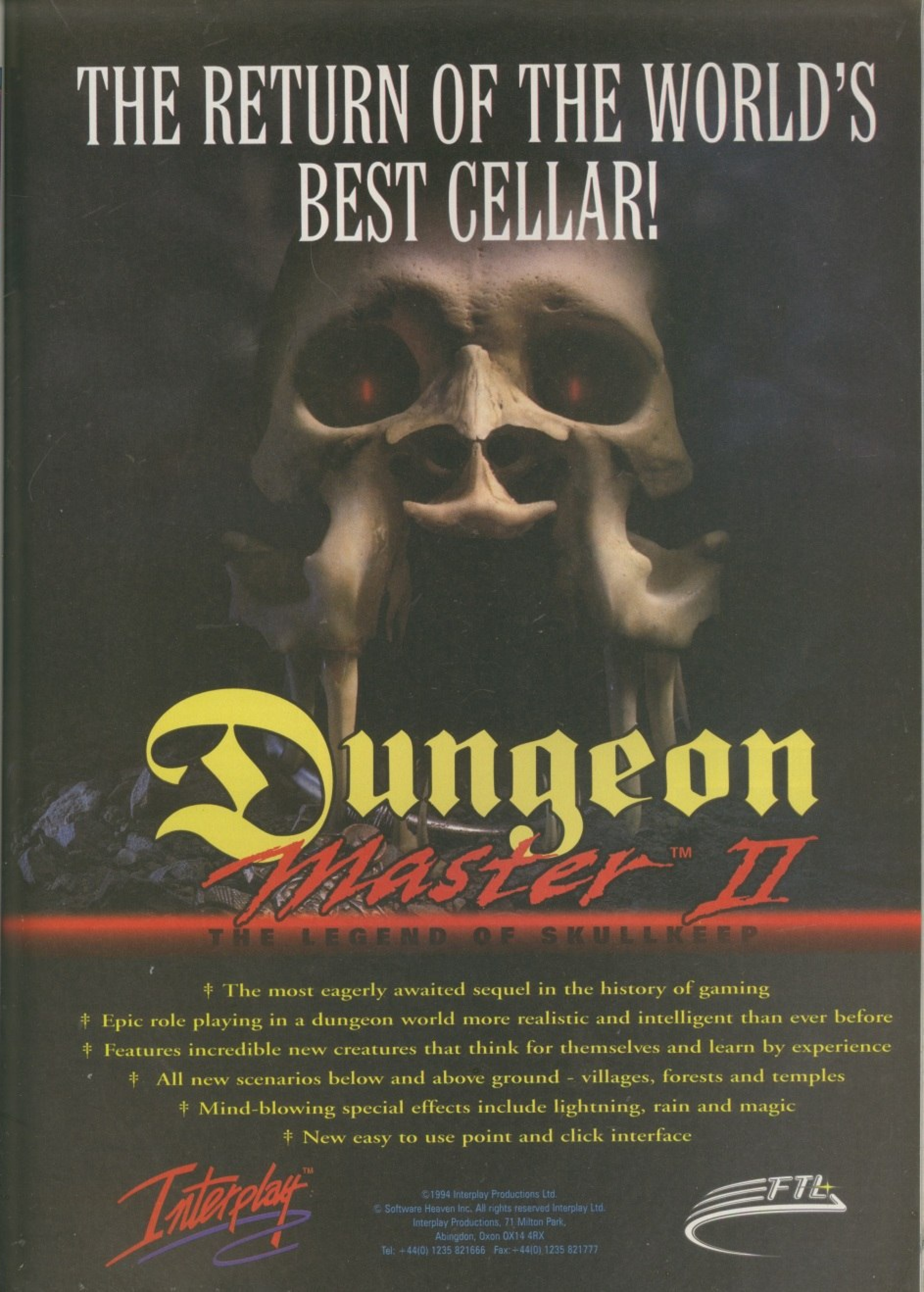
I will warn you that if you do decide to invest you will be wishing for Doom as you play it.



You can choose from many different control systems. These all involve either the mouse, joystick or arrow keys



To open the gate you must find the key and place it in the lock on the left


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SYSTEM review

GRAPHICS 90%

SOUND 87%

GAMEPLAY 89%

OVERALL 89%

PUBLISHER
Virgin

DEVELOPER
Sensible Software

PRICE
£29.99

DISKS
2

HD INSTALL
No

SUPPORTS
All Amigas

After the success of Sensible World of Soccer, Sensible Software return with their final adios to the Amiga market with another high profile release that's been jockeying between finished and almost finished for the last six months. Finally, it has landed.

I'm not so sure that golf games are in need of an introduction. Golf is basically golf – clubs, balls, tees and greens; nothing special or original, just golf. A sport where aged businessman do 'business' during office hours – claiming they're really stuck in traffic

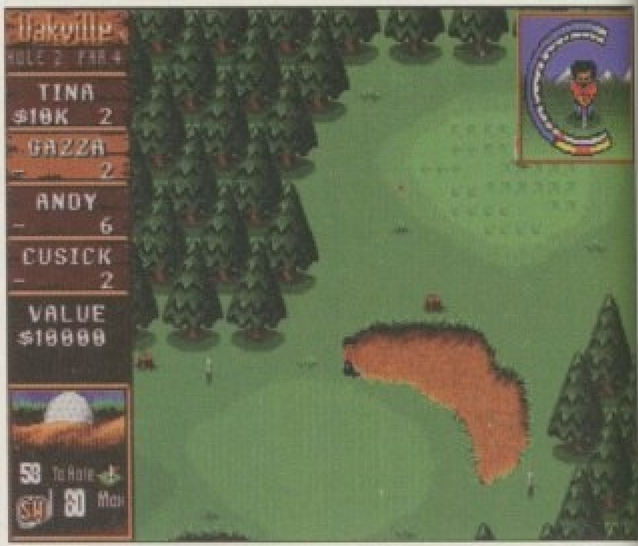
Sensible Golf uses the infamous Sensible Software trademark once again – the character sprites. They are the same ones used in Sensible Soccer and Cannon Fodder – nice and small but incredibly effective.

After being released as a coverdisk demo on many magazines, Sensible Software were simply unhappy with the result. It didn't play as polished as it looked, so they were going to tweak and twiddle with the gameplay. That was the last I heard – until now.

My first impressions were very good as the graphics looked very much like those in Sensible Soccer – only without shorts. There is an option included to configure your character to look like yourself or your colleagues – the colour of hair, skin, trousers and shirt can all be altered to create your own golfing superstar. You can then make your way to the options screen to fine tune the in-game entertainment – especially the background ambience (bird tweets, to us common folk).

During a season of tournaments, 72 other computer competitors will join you on the leaderboard – all trying to win the huge cash bonus you receive at the end. You can play matchplay, strokeplay or skins. Skins is the firm favourite in the office because you can play for oodles and oodles of cash. The richest after the last hole, wins! It's as simple as that. If you play in a season, you get to take part in all the major competitions against the best players from around the world. You will travel everywhere with your clubs, trying to top the leaderboard with your expert golfing prowess.

The idea is to win championships, therefore receiving cash. You will then be entered on the prize money leaderboard where all the greatest players happily take residence. The ultimate goal is to sit at the top of this leaderboard after

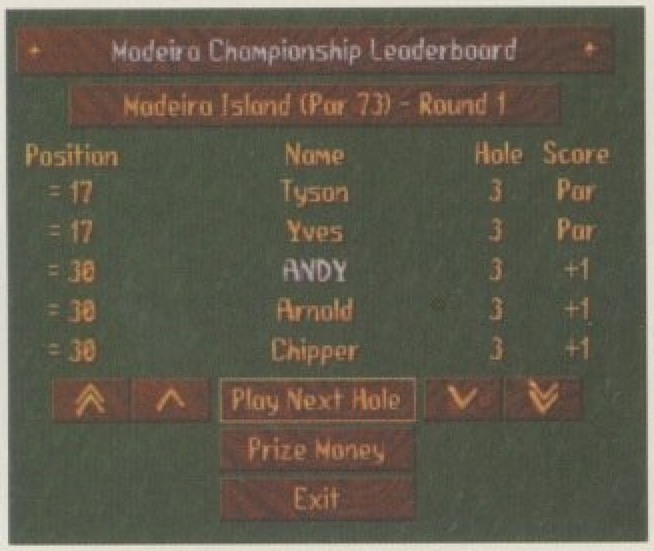


The power gauge is fairly easy to master. You will get frustrated at first, but it will become easier

Teeing off

To take a shot, you must first look at a small map which you bring up in the top corner. Here, you can see all the various obstacles as well as the pin and green. Once you have set your direction, you get a zoomed-in view of your golfer which is about the same distance away as Cannon Fodder and Sensible Soccer – with regard to graphics. You can then fine-tune your direction a little and get ready to tee off.

Three presses are involved in the actual taking of a shot. The first starts the power-bar, the second selects the power, and as the gauge comes down you have to press it to stop it in the red bit. The red bit indicates a straight shot, and the yellow either side represents hook and slice. Hopefully, you will now have cleared it down the fairway, and it's time to do it all again!

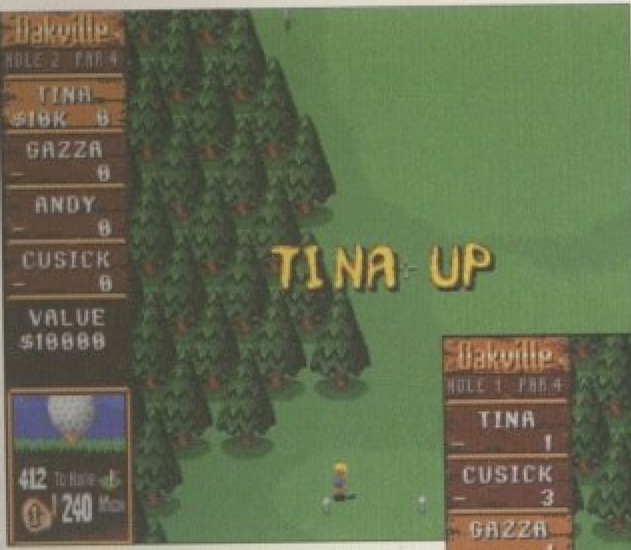


The Madeira Championship is the first tournament you will take part in during your long, hard trek through a gruelling season.



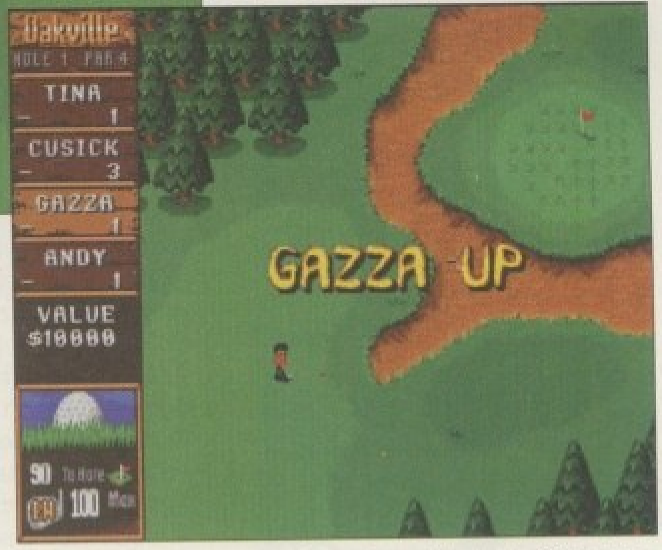
The small map in the top-left corner gives you an overall view of the entire hole – enabling you to see where all the hazards lie

We were all so afraid of playing Tina. She always seems to beat us. Will that do? Can I have my money, now?



Sensible Golf

Reviewed by Andy Maddock



It's Gazza's turn to attempt a chip shot. I think he has the skill and finesse to make this one

playing in many gruelling tournaments and seasons. As soon as you begin to play, you will find Sensible Golf very frustrating. When you set your club for the yardage to the pin, the ball will never reach the distance.

At first I thought it may have been because I was in the rough. But no, even if I was on the fairway, well clear of any hazard, it still wouldn't go as far as it boasted – it always seemed to fall four or five feet short of the pin. This is very annoying as your shots will not be as accurate as the meter shows.

The actual hole layouts are very badly designed. When you hope to drive it down the fairway, you don't expect a huge stream or bunker slap bang in the middle. Due to this, you either have to smash it up field and hope it will clear everything, which is very unlikely, or change your driver for an iron so it drops before the hazard, which is extremely tough to judge.

Whichever method you plump for, you always end up in a bunker or water hazard. As it stands, there seem to be too many obstacles that interfere with the actual playing area. It is possible to weave around them, but each shot adds to your overall total, which will certainly not win you championships.



Not only can you play strokeplay and matchplay, but you can play for big money in the skins tournament

> ‘ a fantastic little arcade game with **many months** of entertainment ’



A gentle chip shot on to the green is required here. Not too much power or you will you'll end up in the trees

Final word

Other than these gripes mentioned before, which aren't anything particularly major, you just need some practice to enable you to become more familiar with the controls.

It is actually very easy to master and hopefully, with some practice, you should be going for the championships. There is an option to practice any hole from any course, so it is easy to brush up on your golfing skills before heading for the big cash prize. The game itself is quite large – with 25 different courses. Each one isn't amazingly different from the other, but the weather, trees and backgrounds tend to vary a little.

As it stands, it's certainly a fantastic little arcade game with many months of entertainment. If you can manage to stay calm during the frustrating parts you'll find it very enjoyable – especially with four players.

SYSTEM

review

The long-awaited Colonization has finally made its way from the PC and onto the Amiga. Developer, Sid Meier, already has a stack of hit titles behind him, including the game's predecessor, Civilization. Colonization is not really the sequel to this but a lot of the game's features are included. Much of the original game engine is used too.

The difference lies in when the game is set. Whereas Civilization put you back in pre-history, building your civilization up to the space age, Colonization has a more specific time span, putting you in the role of Viceroy of the New World. The America's have just been discovered in 1500 and the game continues up until the American Revolution in 1800.

You have been sent by your country to establish colonies in the newly discovered territories and deal with all the problems that the early settlers faced. Playing as either the English, French, Spanish or Dutch, you must establish your colony, learn to use the natural resources and set up a viable trade route. Relations with the natives and with the other foreign powers can also be established, either through diplomacy or war.

The game starts and you have the option to play at different skill levels. Play as a Discoverer if you've never played before and rise through the ranks up to the challenge of Viceroy. This is by far the hardest route and the natives will be less friendly and enemy powers more cunning. Help is at hand, however, through your advisers who can be consulted on matters such as trade conditions or the state of play with your rivals.

Unlike a lot of games, as well as facing the challenge in hand, you are also competing against opponents. In this case it is not only natives but the other foreign powers all seeking dominance in the New World. You play in a series of turns - each has a strict sequence of action - and within each turn you can carry out your plans.

To win the game, you must build up enough power to successfully declare independence from your mother country. Alternatively, the game

GRAPHICS 80%

SOUND 70%

GAMEPLAY 77%

OVERALL 85%

PUBLISHER
MicroProse

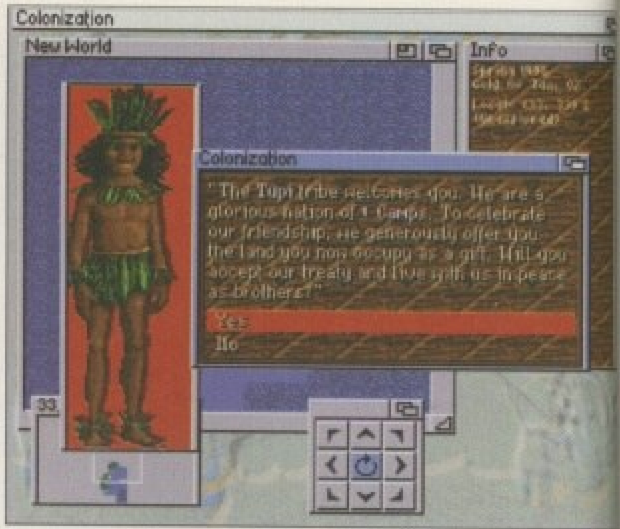
DEVELOPER
Sid Meir

PRICE
TBA

DISKS
3

HD INSTALL
Yes

SUPPORTS
All Amigas 1Mb+



You must decide whether to declare war or peace with the natives

Colo

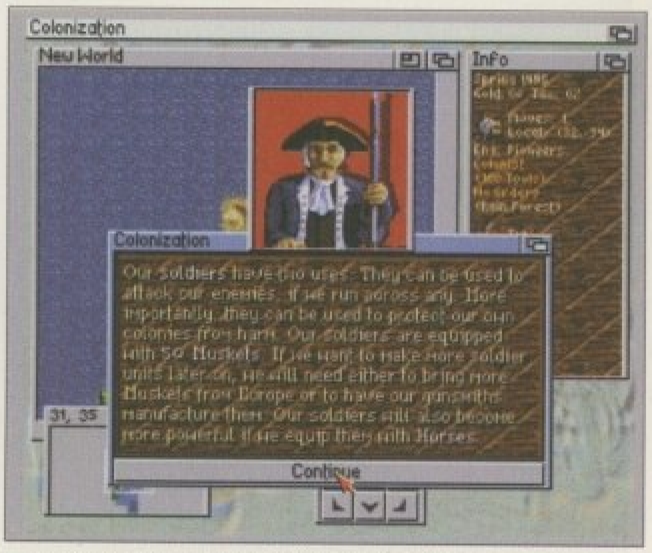
automatically ends in 1800 where your score w be calculated, although you can play after th time but without any score being accumulated.

The game requires you to make a vast amoun of decisions on trade, warfare and colonial issue Once a colony has been established, the ma priority will be survival and collating enough of th natural resources to start a small cottage industr As this accumulates you can start thinking abou establishing trade routes and building a stabl economy.

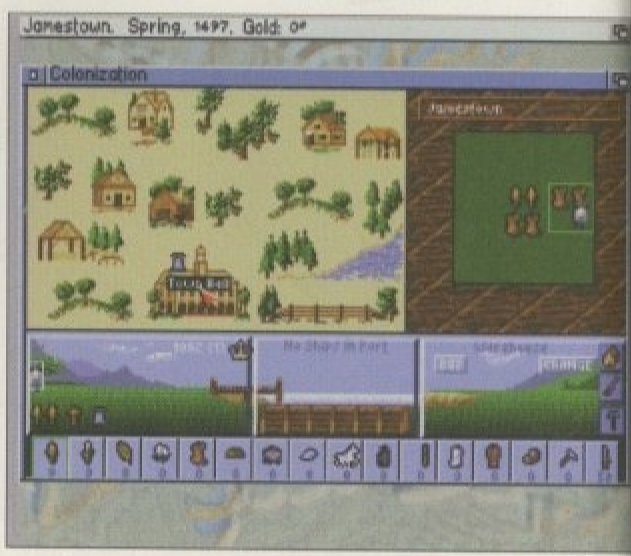
The education and religious needs of yo colonists should also be addressed, and establish ing schools and colleges will make for bett skilled workers. All the information you may need compiled in various tables and will impart thing such as how many favour rebellion against the mother country, or how much religious freedom there is.

An encyclopaedia is also provided to giv you helpful information on terrain types or an particular aspect you need more detail on.

Issues get debated within your colony and eventually Founding Fathers can join you



Advice panels appear throughout the game on matters such as warfare and trade



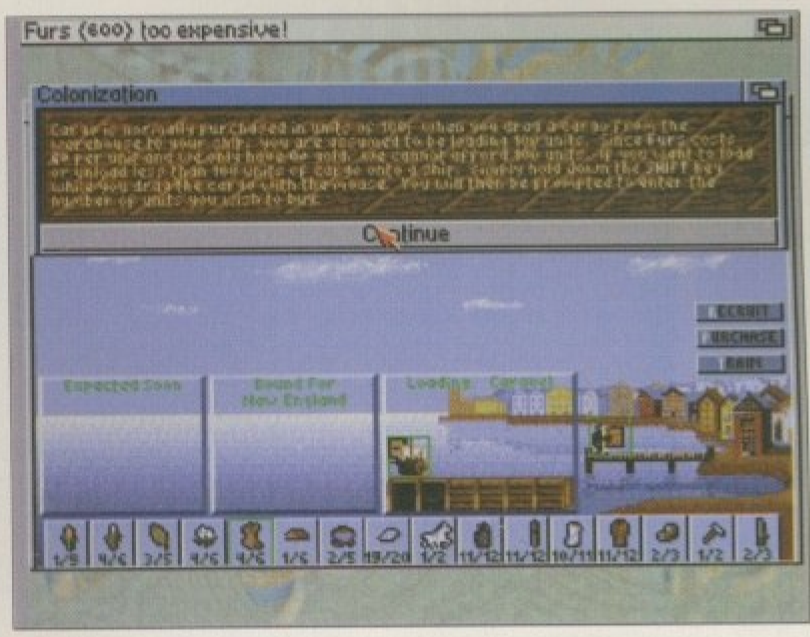
From the Colony Display, you can control what happens in your settlement

Making history

As a player of Colonization you get to change history. Set in the period 1500 to 1800, during the discovery of the Americas, you get to change the events that took place.

Whichever European power you decide to be, you'll have realistic factors that will affect the game. The French, for example, co-operate with the natives better because alliances and trade agreements were maintained with the natives for many years.

One exceptional aspect of the game is that it gives you some historical background as you go along. The manual also gives an interesting insight into the Indian tribes and various facts from this rich period of history.

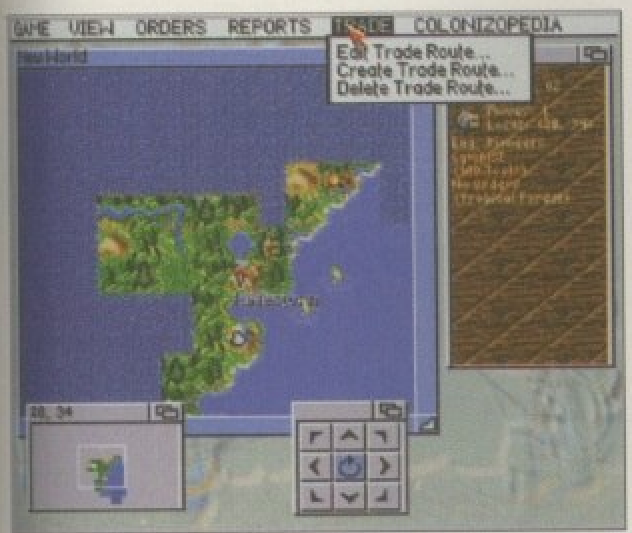


Unfortunately, the designers have paid little attention to making the font easy to read

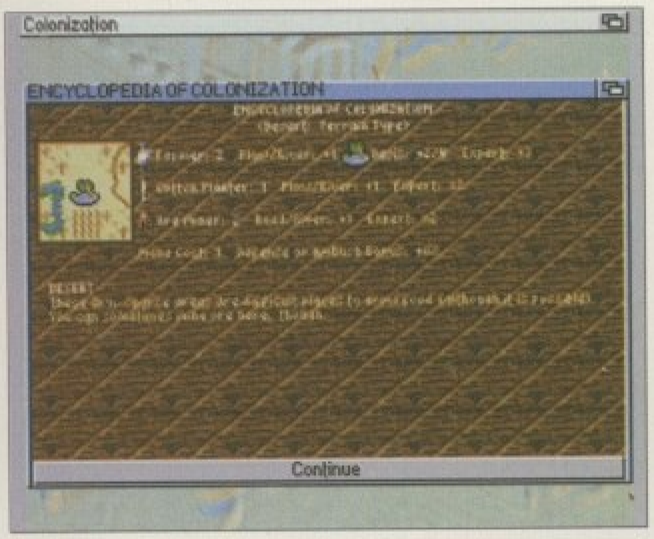


nization

Reviewed by Tina Hackett



A drop-down menu allows you to give your orders



A useful encyclopaedia gives information on things such as terrain or unit types

"For the more **cerebral** games player, Colonization comes highly recommended"

Continental Congress. With them they can bring radical new ideas that will advance the course of history. For example, John Paul Jones was a successful Scottish naval commander who served for the colonies during the war of Independence and if he joins your congress your navy will get a frigate.

As the game progresses war may become necessary with other foreign powers you come across. Diplomacy can be sought and whether you wage war will depend on resources. A quick campaign can have its benefits but long campaigns will drain resources.

Those familiar with Civilization will see that this game uses a similar interface. Controlled by the mouse, you can click on a drop down menu to give your orders. Keyboard shortcuts can also be used to carry out an order quickly. Some may also be surprised to see that the game uses workbench.

Although it's not a visually stunning game, the graphics are more detailed than you'd expect from this wide range overhead view and different terrains are all conveyed realistically. Other graphics worth a mention are the characters that appear throughout the game which are drawn well and add authenticity and an historic air.

Finally, there's plenty of in-game music you can choose from, so you don't get stuck with one grating tune throughout. From Indian pan pipes to jaunty victory tunes, you can take your pick.

Final word

Colonization is a very in-depth strategy game and it does take a while to get into. Once there though, it's a thoroughly absorbing title that has been intelligently written. And fortunately, it doesn't fall into a common strategy trap of becoming tedious or overly complex – the main objective of fun remains throughout.

Also, there is more action than you might think for a turn-based game, and it continually engages the player in planning their next move. For the more cerebral gamesplayer, this comes highly recommended.

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G912 MANGLE FENDER - brilliant, smash up other cars/tanks etc to win, extremely addictive, get it
G913 ARCADE GAMES CLASSIC Vol 1 & 2 (2D)
G914 HELICOPTER - play like Desert strike
G915 COW WARS - very addictive 2 player games
G916 ISLAND - play like Monopoly
G918 FISHY FISHY - very good game
G919 COP THE LOT PRO - latest lottery predictor
G920 LOTTERY PROFESSIONAL - this version uses the predictions from USA & Canada
A430 JUPITER IMPACT - Real pictures of the collision of jupiter and the asteroid. Brilliant- recommended
M362 RAVE NATION (2) - another brilliant music disk
D360 SONIC THE HEDGEHOG. Brilliant demo
E210 LEARN & PLAY 3. Latest Education & Games
E240 BARNEY THE BEAR GOES CAMPING (2D) - Brilliant, teach your child about animals
E241 COMMS GUIDE V1.1 - beginner modem user
E245 MATH ATTACK - Maths relate game for kids
E242 ANIMAL LAND - Ideal for young kids. Excellent
E243 PICTURE MATHS - Maths program for kids
E244 APOLLO 2 (2D) - detailed missions of Apollo 2

TOP VARIOUS UTILITIES

U001 A-GENE help you trace your family tree.
U024 D-LOCKS proctect your disks & files
U027 ULTRAPAINT & SURF paint & 3D model program
U029 CAN DO programming language
U046 DARKSTAR no.2 (vol 2-5) loads of utils
U058 DISK MAG CREATOR create a disk magazine
U117 NORTH C compiler (2) brill programming language
U122 SID 1.6 copy/delete/move file made very easy
U131 TETRA COPY play Tetris while copying disk, great
U135 MOST USED UTILITIES (2) very useful util collection
U145 XCOPY PROFESSIONAL very powerful disk copier
U146 C-MANUAL 2 (4) Teaches you how to program in C
U153 ASSASIGN PRINTER Utilities very useful
U169 PAINT AND ANIMATE still the best
U170 BIORHYTHMS V4.01 display your own biorhythms
U184 MASTER SEKA V1.6 complete Assembler language
U186 UNLIMITED DISK CREATOR all tools on are here
U187 M COMPUTER AID DESIGN - Was commercial product
U188 SHOWIZ slide show maker 24+ wipe effect
U191 SID II copy/delete/move/run file using a mouse
U220 AMOS-PAINT V. good paint package, lots of features
U222 GRAPHICS UTILITY(3) lot of graphic converter tools
U225 AUDIO SOUND TOOL (A500) (A1200)
U226 50+ MOST USE UTIL loads of very useful utils
U229 SLIDE-SHOW CONSTRUCTION KIT easy to make
U240 ARCHIVER TOOLS lots of crunchers
U242 IMPLODER 4.0 disk file compressor. Excellent
U243 The A-T COPIER (not WB3) 13 disk copier
U254 FRACTAL UTIL loads of fractal programs, brill
U257 DISK CRUNCH Compilation not WB 2
U282 LAND BUILDER create realistic landscapes
U284 COPY & CRACK TOOLS back up your software
U287 P.C. Q PASCAL (2 disks) programming language
U300 MESSY SID II read/write PC/MAC etc files.
U301 AUTO DISK LOGGER catalogue your disk
U321 GRAPHIC Util 1 (3) loads of brill graphic utils
U324 GRAPHIC util 2 (3) even more Graphic tools
U333 SCENERY MAKER more landscape generators
U334 EMULATOR COLLECTION II (lots of emulators)
U335 FREE COPY back up commercial games
U337 MODEL 3D Brilliant 3D object designer
U338 MULTI VISION (2) disk/files utilities
U340 HACKER-TOOLS many ripper tools
U350 POOL TOOL - predict horses with the best chance
U351 RACE RATER Similar to above, but both
U358 STAR CAT 2 - create catalogue disk, easy
U359 SEEKER find lost files on floppy & hard drive
U360 R.P.G (2) adventure creator
U363 DISK REPAIR KIT -a alvage & repair damaged disks
U365 SAMPLE MAKER make samples with out Hardware
U367 MUSIC MANIA many version of music maker pro, brill
U372 WORD SORT process ASCII files
U377 NCOMM III more modem software + packer util
U378 DIGITAL ADDRESS BOOK V.good address book
U379 HOT UTILS more amazing utils
U380 UNICOPY fantastic disk copier
U381 GRAPHIC RIPPER (not WB3) plenty
U383 LYAPVNOU GENERATOR- generate space scenary
U384 MED V3.2 (latest) Brill music maker
U387 P-SUITE add colour/animate to text?
U388 SUPER CLI - fast disk, fast load etc. OK
U391 FORTRAN complete programming lanaguage
U392 AMIGA DEX - Good database program + more
U393 UTIL collection of lots of useful utils
U397 FORM UNLIMITED design any type of form
U399 FRACSCAPE V1.2 new fractal similar to VISTA
U400 SOUND TRACKER V2.6 music maker
U401 PLUS ISSUE(not WB1.3) Vol 1-14 each disk pack with various WB2 & WB3 utilities. Recommended
U420 SPEED BENCH (not WB1.3) create auto boot WB
U425 NIB 2 very popular copiers
U436 The RIPPER COLLECTION (not WB3) many ripper programs
U440 RADBENCH recoverable WB (state Amiga when order)
U442 SYSINFO test & print info on your AMIGA sys
U444 FONT FARM font creator/editor/design new fonts
U449 AMOS UPDATE 1.4 add more commands for AMOS
U457 WHOM 2 (3 DISKS) Detail/database on 51 films
U470 FINAL FONTIER 1 (2 disks) Star-trek magazine
U473 FINAL FONTIER 3 (4 disks) Star-trek magazine
U480 HARD DISK CLICK - Hard Drive menu system
U490 B-TEC UTIL - Amazing pack with 207 utilities
U491 PROTRACKER V3 - Best music writer program
U492 WORK-STATION (2 disks WB1.3 only) WB replacement
U495 HARD DISK UTIL brill collection of Hard disk util
U496 EASY PRINT (A500 only) lots of printing utils
U498 WORK-MATE - 15 brilliant disk utils compilation
U501 THE MUSIC CONSTRUCTION KIT (state Amiga owned)
U502 SCORPION MAPPER II Making maps of game levels
U503 PROCALC Super full function Calculator
U504 HOT-STUFF - more util disk compilations
U505 VIRUS-KILLER & DISK RESALVAGE/REPAIRE KIT
U507 DCOPY V3 PROFESSIONAL - Excellent Disk copier
U509 ULT BOOT BLOCK 40+bootblock generator/maker
U510 ULTIMATE BOOTBLOCK Collection II + more
U512 ZIRCON UTIL - 30 MOST USEFUL UTIL 2, brillant
U515 WIT COMPLETE UTIL 20 most used utils
U516 AMOS FRACTAL fractal mania
U521 SPECTRA PAINT III rival to Dpaint
U542 SEA HORSE CHEATS more cheat/passwords etc
U550 SCENERY CONSTRUCTION KIT fractal, recommended
U551 ASSASSIN BOOT BLOCK over 50 bootblock protector
U555 CROSSWORD CREATOR (not WB3) crossword maker
U561 PERM CHECK a full POOL PREDICTION program
U568 ICON CONSTRUCTION KIT icon making program
U569 ICON ready made (4 disks)
U582 DPAINT GRAPHIC TUTOR (not WB3) excellent
U584 NEW SUPER KILLER Regonise & kill 120+ viruses
U590 600 NUMERIC PAD EMULATOR (A600 only)
U591 DEGRADER (not WB 1.3) A500 emulator
U592 KILL AGA - make older programs run on A1200
U600 C64 EMULATOR II util & document
U601 DISKSALV II + ABACKUP (not WB1.3)
U603 THE CHEAT COMPENDIUM for over 450 games
U620 HOW TO CODE IN C (2 disks) + many examples
U622 ACTION REPLAY V1.5 - cartridge on disk
U623 ACTION REPLAY V4 (A1200 ONLY) same as above
U645 PC EMULATOR V.2.31 (WB3 only) SVGA PC emulator
U650 COPY & CRACK TOOL 2 more powerful copy programs
U665 S-KICK various version of kickstart, recommended
U680 NEW SUPER VIRUS KILLER (not WB3) kill 316+ viruses
U682 ASTRO 22 V3 latest Calculate star/sun positions
U685 DISK MANAGER V3 create catalogues of all your disks
U687 AMOS PROFESSIONAL UPDATE added extra command
U689 FORCASTER V2 - horse racing prediction program
U690 ASSASSIN COPIER (lots) includes Xcopy3/dcopy etc
U691 ASSASSIN HANDY TOOL 2 (500 1.3 only)
U692 ASSASSIN HANDY TOOL 3 more utils
U693 ASSASSIN HANDY TOOL + even more utils
U694 SUPER DUPER 3. (NOT WB1.3) V.fast disk copier
U695 P.C.Q complete Pascal language with compiler
U696 AMITOOL PROFESSIONAL disk database tool
U699 MEGACHEAT V3 + even more game cheats
U700 ANIMATION CONSTRUCTION KIT V1.2 + good
U702 V MORPH V2.create smooth morph animation
U703 POOL TOOLS 2 (Latest) predicts horse racing
U705 TRONI-CAD - best creative circuit board+examples
U707 GAME TAMER (3 & 4) - (2) Even more games cheats
U708 LAST WILL & TESTAMENT - write your will
U710 PERFECT-PAINT 32 Very easy to use paint packages
U713 CDTV v2 PLAYER play CDs while in workbench
U714 ENGINEER KIT various test kits for Amigas
U718 MAGNUM 1.5 REGARD the best disk magazines creator
U721 FONT FARM V3 + loads of fonts + font viewer
U723 EXOTIC RIPPER rates as the best sound/graphics riper
U724 PARNET SET UP (2) requires for the connection
U725 PARNET CABLE MAKER INSTRUCTION project save £££s
U726 AREX MANUAL (not WB1.3) complete manual. Highly rec
U729 ASSASSIN BOOT UTIL 50 boot block creator utility
U730 SOFT AGA (A500 plus or A600) & min 1.5 meg
U731 A - Z GAMES CHEAT for over 500 games
U732 MINI MORPHS create TERMINATOR 2 effect
U736 AWARD MAKER II+ hundreds of ready made, brilliant
U737 ASSASSIN CRUNCH & COPY TOOL (WB 1.3 only)
U738 S.KICK PROFESSIONAL v3.2 Various versions of K-start
U739 TURBO IMPLODER V3.1 powerful disk cruncher
U740 CROSS DOS 5.1 plus read/write PC<->AMIGA disk
U741 HD-DISK TOOL BOX + many more Disk util recommend
U742 HOW TO CREATE AUTOBOOT DISK complete + util
U743 UTIL. Disk Maker v3. MAKE AUTO BOOT DISK
U744 FRACTAL MANIA+BIOMORPH Brillant collection
U745 AF WORKBENCH (WB 1.3 ONLY) replacement
U746 3D GARDEN DESIGNER can view from any angle brill
U747 ASTROMY V2 predict star planet prediction
U748 ILLUSIONS DRAWING program like Dpaint
U749 DISK REPAIR 3 (floppy & HD) include soft-protect,
U750 MUSIC CATALOGUE (not A500 1.3) very easy to use
U751 SYSTEM CHECKER TOOL must for any Amiga owner
U752 EPU STACKER double the storage of your DRIVE
U753 HARD DRIVE UTIL+ lot more Hard drive util
U754 PARBENCH installer (complete)
U755 PRO CAD electronic latest circuit board designer
U758 WB MENU LAUNCHER - menu system, easy to use
U760 ICON PLUS (3 DISKS) Hundreds of stunning ICONS
U761 RELOCKIT 1.4 latest WB1.3 emulator
U762 FAKE FAST MEMORY make older software...
U766 MICRO FAX 4 (2) project (build a fax machine)
U777 TELETEXT RECEIVER project. Highly recommended
U781 DOSTRACE V2. display information why some program refuse to run. Also monitor Amiga activity RECOMMENDED
U783 POOL WINNER GOLD must for all gamblers
U784 DMS Pro Compress 2 disks into 1. Brilliant
U789 HARD DISK MEMORY V2 use HD as memory (MMU)
U790 WINDOW BENCH V2 (WB 2/3) 2 disk new workbench replacement, include lots of useful ...
U791 COMPUTER DIAGNOSTIC TEST V9 Amiga complete system tester
U800 PRINT A CARD includes many ready made ...
U801 MULTI-PRINT V4 lots of printing utils
U805 DISK PRINT print custom disk labels
U806 BANNER V1.5 cli banner printing program
U807 FONT & PRINT Loads of utilities to view & print your font collection. RECOMMEDED
U830 POOL WIZARD - (football) prediction
U832 DIVIDEND WINNER - Prediction program for use with LITTLEWOODS, VERNON, ZETTERS etc
U834 FORCASTER 2.02 New Horse prediction program
U839 AUDIO MAGIC 4 - Proctracker V3. Exotic ripper
U840 AUDIO MAGIC 5 - more music utilities
U843 AUDIO MAGIC 8 - Octamed player etc
U846 C64 EMULATOR V3 (2 DISKS) latest
U848 SPECTRUM EMULATOR V2 - latest
U849 VIC20 Emulator include tons of games
U850 EAGLE PLAYER (2 disks) One of the best module players. RECOMMENDED
U851 DELI-TRACKER (2 disks) play all music module format. Recommended
U861 SONIC DRUM KIT V2 Mass drum sample
U862 DISK COPY Pack (10 disk copier)
U863 OPTI-Utils Vol 1 - Brilliant collection of 30 disk copier /Optimise etc. RECOMMENDED
U885 INTUITION BENCHMARK V6.5 (Not WB1.3) Complete Amiga system tester. RECOMMENDED
U886 COMPLETE WB UTIL (2 DISKS) One of the best Util collection available
U887 DISK REPAIR KIT 4 - Includes disk repair, undelete, sof tproctect, diskmate, sysinfo, etc
U950 STEREO-SCOPIC V2.a (not A500 1.3) This is a RANDOM DOT STEREOGRAM generator
U951 FORTH PROGRAMMING (NOT WB1.3)
U955 PRO PAGE 2.1 HELP DISK Large help file for page users
U956 PRO PAGE TEMPLATE. Tons of ready made ...
U957 SCALA BACKGROUND (2 disks) Very high quality images for use with Scala
U960 PROGRAM LOADER - New Hard Disk menu
U961 MAGAZINE E issue 3 (2 disks) Excellent disk magazine base entire science fiction
U962 IMAGINE V2 BUDDY SYSTEM (2 Disks) On line help. Must for IMAGINE 2 user
U963 AMOS & AMOS PRO COMMAND EXTENSION
U966 MULTI PRINT 4 includes print manager 2 ...
U967 PRO-GAMBLE - Super Horse prediction program

MUSIC

M001 BEASTY BOYS - We Want Some Pussy songs
M002 MICHAEL JACKSON - Song BAD
M003 DO THE BARTMAN
M005 100 C64 TUNES (not A1200)
M006 BAT-DANCE REMIXED
M017 GUNS & ROSES - YOU'RE CRAZY
M018 MONEY FOR NOTHING - DIRE STRAITS HIT SONG
M027 BLUES HOUSE (2 disks)
M029 SAFE SEX DEMO - Very funny
M031 BETTY BOO (2) needs 2 drives (brilliant)
M058 SGT PEPPER (2D)
M072 MADONNA - Hanky Panky Song
M084 C64 GAMES MUSIC
M115 MAHONEY & KAKTUS 2 - 40 tunes compilation
M125 ADAMS FAMILY
M150 TIFFANNY - I Think We're Alone Now
M171 MADONNA - (Like a Virgin)
M173 JANET JACKSON - RHYTHM NATION
M177 PET SHOP BOYS
M184 SAM FOX (Please Me)
M186 MADONNA (Rescue Me)
M188 JOE LE TAXI
M189 MICHAEL JACKSON (Smoot Criminal)
M194 JESUS ON E's (2 disks)
M205 RAVE - More Rave
M262 A TO Z OF C64 GAMES MUSIC (4) Brilliant
M314 DICK TRACY (Madonna) (2)
M335 STAR TREK & STAR TREK NEXT GENERATION (2)

18 DEMOS

Age 18 and over only
X80 CINDY CRAWFORD (2)
X74 MADONNA (SEX) (3)
X01 SHOWER GIRL
X03 BODY TALK (2)
X09 MARIE WHITTAKER
X24 SABRINA SPECIAL
X25 DIE FILKINGER
X26 MADONNA EARLY DAYS
X28 KATHY LLOYD
X30 MEGA-MAID
X31 CALENDAR GIRL
X32 MAYFAIR
X33 UTOPIA (4 DISKS)
X45 GIRLS OF SPORT
X49 PAGE 3 GIRLS
X70 GON GON GIRL
X71 TINA SMALL

X91 Calendar girl 95

ANIMATIONS

A006 FILLET THE FISH long story animation
A013 SPACE-PROBE- in search of Alien life form
A054 THE RUN - Lotus being chased by police
A072 LIFES A BITCH - Hmmm for 18 + only
A138 KYLIES (2) Kylie slide & music. Brilliant
A173 HELL RAISER II - CREEPY horror show
A179 THE LIVING WORLD SLIDE SHOW - creepy crawly
A187 PERIL OF THE DEEP (2) Massive sea creature
A190 TERMINATOR II (2) - Brilliant
A193 NEMESIS COMIC - very good comic.
A208 THE LADY AND THE TRAMP - short movies
A213 CANNON FLIGHT- Brilliant graphics
A215 MADONNA SLIDESHOW III - Must for Madonna fans
A225 ANOTHER 5 WAYS TO KILL A MOLE - Classic
A226 NEW VIZ - Hmm for 18 + only
A230 TOO MUCH 3D - Superb Spaceship amin
A231 ALIENS II - Definitely the best Aliens
A236 WHIZZER + CHIP - for Comic fans
A248 PERVERSE SLIDES - funny but rude
A255 BART SIMPSON MEGA DEMO (3 Disks)
A262 STAR-TREK the Next Generation 55
A288 SATURN FLY BY - Remarkable anim VOYAGER II
A290 CHRISTMAS ANIMATION - Ahhh to late now
A293 MANGA (3) very cute Jap chic & robots demo
A295 MAYHEM ON WHEELS 3-real motorbike/car crash
A306 TORNADO Slideshow
A320 GORE - gruesome Horror
A336 FAST CAR - Loads of fast & inexpensive show
A414 MANGA WORLD 3 - More brilliant Manga Pics
A417 AKIRA X-MEN - more MANGA comic Shows

VIDEO TITLERS/TOOLS

U181 VIDEO NOTE database for your video collection,
U431 VIDEO APPLICATION (2 disks) many video titler prog
U250 VIDEO TOOL (3) loads of video utils. Recommended
U964 TELESUBTITLE - new video titler
U965 VIDEO MAXE V4.33 The latest in video
U352 DESKTOP VIDEO 1 & 2 (best video titler tool) cataloguing system. Dozens of functions
U671 TELE TITLE 2 - Great new VIDEOS titler
U513 VIDEO TITLER (2 disks) more VIDEO TITLER-BEST
U920 TELESCROLL 2 (not WB 1.3) Easy to use Video titler loads of features
U921 WEDDING VIDEO ANIM (2 disks) Requires D.Paint 3/4. Very high quality
U922 CAPTION MACHINE excellent Video titler
U923 VIDEO MANAGER (Not A500 1.3) Video cataloguing system
U925 Video Titler - very good video titler

U757 150 PRINTER DRIVE

LARGEST COLLECTION OF PRINTER DRIVERS

U.F.O. THE CLOSE ENCOUNTER

INCREDIBLE DISK SET PACK WITH REAL LIFE DOCUMENT REPORT, SIGHTING, U.F.O. KIDNAPPING ETC + MANY UNRELEASED. REPORT OF CLOSE ENCOUNTER WITH THE U.F.O. BEING BRILLIANT. A MUST FOR ALL U.F.O. FANS, RECOMMENDED

compatible with all Amigas

6 DISK SET ONLY £5.95

PRINTER MANAGER

U427 PRINTER-STUDIO excellent print results
U599 PRINTER TOOL - includes typewriter, spooler etc
U792 PRINT LABELS print disk labels/banners
U793 STAR PRINTER STUDIO - for all star printers
U794 SEIKOS STUDIO - For all Seiko printers more ... printer driver for the above printer
U733 PANASONIC STUDIO - 9 & 24 pin. printer driver ...
U734 CANON PRINTER STUDIO not A500 (1.3)
U735 PRINTER STAR 24/200 FONT DESIGNER - ...
U782 CITIZEN PRINTER MANAGER for all Citizen printer owners containing many useful printer util & drivers
U884 CANNON PRINTER STUDIO 4 or all models for use with Cannon printers
U757 150+ PRINTER DRIVER largest collection

STAR-TREK MANIA

IF YOU LIKE QUALITY STAR TREK RAY-TRACE ANIM. THEN THIS PACK IS FOR YOU. 5 DISKS OF STUNNING STAR TREK ANIMATIONS. BETTER THAN HOLODECK SERIES. COMPLETE STAR TREK MANIA PACK ONLY £4.95. PLEASE STATE AMIGA WHEN ORDERING



GAMES

G097 PLOTTING like tetris on side
G102 PIPELINES connect pipe V addictive
G109 BUG BLASTER fast action recommend
G112 CUBULUS based on a RUBIK CUBE
G121 LAMATRON (wb 2/3 require Relockit)
G127 DEFENDA Brilliant defender clone
G136 DUEL fast action like BATTLE ZONE
G153 SEALANCE Good Submarine Simulator.
G177 PIXIE KINGDOM (2disk) adventure
G190 ICE RUNNER (not A1200) brill graphics
G195 WHEEL OF FORTUNE VG TV QUIZ games
G216 POOL(not A1200) only one on PD
G222 MEGA 21 GAMES amazing 21 games
G235 DRAGON-CAVE brilliant 3D puzzle games
G237 SCRABBLE (for 2-4 player only)
G240 QUADRIX very addictive, excellent
G242 TAKE EM OUT like to Operation wolf
G245 CHROME-20 brilliant level recommend
G249 WREX (not A1200) super game & graphics
G253 DESTINE MOON BASE Arcade conversion
G258 ALIEN NET WORK (not WB3) Invaders
G263 SHAPES Play like a computer jigsaw.
G265 SUBCULTURE brilliant shoot em up
G266 TRUCKING A (2D not A1200) simulator
G268 SCUB-BUSTER destroy enemy Scub Missile
G271 AVINA BLUE fast action shoot em up
G272 TANK BATTLE 2 player tank battle game
G278 ARCADIA the best ARKNOID clone
G300 Q-BOID cross TETRIX and INVADERS.
G303 DIMENSION X 2 player LIGHT CYCLE GAME
G304 GRAND PRIX SIMULATOR (A500 & A1200)
G305 SQUATS REVENGE VG operation wolf
G309 E-TYPE (not A1200) best Asteroid
G310 NEBULAR Excellent 3D shoot em up
G312 GAMES PACK 28 3 high quality games
G313 MEGATRON two player tron/light cycle
G314 LEGO-TRIS (not A1200) Good tetris
G315 INTER-LOCK Brilliant 3D puzzle games
G316 GALACTIC Excellent 8 levels arcade
G317 HYPER-BALL Speed ball +level editor
G320 GHOST-SHIP Very good 3D adventure
G325 BATTLEMENT hunch back of Notre
G326 MEGA GAME COLLECTIONS III 3 top Games
G329 MADONNA NUDE PUZZLES for 18+ only
G331 GRAVITY massive space exploring game
G333 CYBER-NETIC Brilliant 9 way blaster
G334 DONKEY KONG (not A1200) classic Arcade
G335 CRAZY SUE II- best platform to date
G342 SUPER SKODA CHALLENGE (& track editors)
G344 STAR-TREK similar to RAID2 but harder
G350 TOTAL FIRES III Very fast shoot em up.
G355 DOODY very cute & extremely payable
G356 WONDER LAND amazing graphic recommeded
G359 WAR FARE SIMULATOR (not A1200) Strategy
G360 TOMCAT vertically scroll shoot em up
G362 DELUXE PACMAN + best pacman ever release
G367 CARD GAMES collection
G368 WIZARD-DOMAINS - dungeon type games
G370 KALATRIZ (not A1200) arcade tetris clone
G373 AIR ACE II Very playable shoot em up
G381 INFERNO I Tertis with a twist
G384 OTHELLO best PD version
G385 BILLY THE DRAGON - shoot em up
G386 MOUSE IMPOSSIBLE very addictive
G389 CASINO GAMES - For all gamblers
G390 TETREN most polished Tetris ever released
G392 STRIKEBALL brilliant base ball clone
G399 TRAILBLAZER brilliant (not A1200)
G400 FIGHTING WARRIOR like street fighter
G404 DOMINOES only one of its kind on PD
G406 TOTAL WARS - strategy-like chess in space
G407 NOVA & DOG addictive puzzle game.
G409 WOT IT NAME QUIZ- quiz (ok it good)
G410 FATAL MISSION Excellent Nemisis clone
G411 BATTLE CAR 2-3D car racing
G422 SERENE II excellent arcade games
G431 NESTER CARD GAME- hours of fun for a quid
G435 ROULETE American roulette, excellent
G438 TRAILBLAZER 2 C64 conversion
G441 ETYPE 2- Simply the best asteroid
G443 OLYMPIAD DISK (2D) Olympic sport events
G445 DESCENDER GAME tank, search & descender
G446 OBLIDOX excellent Arcade/Puzzle game
G448 PARACHUTE JOUST quite playable
G455 CASTLE OF DOOM VG graphic adventure.
G456 DUGEON OF NADRIF R.G.P adventure
G460 WIBBLE WORLD GIDDY Large platform game
G462 COSMIC RACE motorbike with gun
G465 CHESS II Very good chess game
G467 CASH FRUIT- good fruit machines
G478 AMOS CRICKET cricket games
G488 EXTREME VIOLENCE 2 player battle out
G489 ENGIMA MACHINE very challenging puzzle
G490 MEGA BALL 2 very playable break out clones
G491 BOUNCE & BLAST brilliant platform 10/10
G492 ZOMBIES & DEFENDER 2 fantastic games
G494 MERCENERY SIMULATION 3D wars games
G499 LIFE -simulation very interesting
G500 TRANSPLANT the best Asteroid yet
G501 KLAWZ THE KAT-great platform games
G502 DRAGON-FIRE more medieval arcade
G503 DRAGON-FIRE - Gulf war mission
G511 HIGHWAY HELL like SPY HUNTER
G513 BLASTER- kill invading aliens
G531 OPERATION FIRESTORMS - brilliant
G534 CASTLE KUMQUAT similar to Alien breed
G535 BLACK DAWN brilliant graphic adventure
G537 ACK ACK - shoot em up for kids
G538 MORIA 5.4 The latest Dungeon & Dragon
G539 BRIDGE Good version of Bridges
G540 ORK ATTACK bloody adventure
G541 REBOUNCE 2 player futuristic breakout
G542 ROAD TO HELL brilliant car racing
G544 SUPERTOM CAT New vertical shoot em up.
G545 KUNGFU CHARLIES mix with platform, brill.
G546 RAID 4 latest vertical scroll shoot em up
G548 QUIZMASTER very good quiz program
G552 ELEVATION games baseD on lift?
G560 IMPERIAL WALKER - Based on STAR WAR games
G567 STARBASE 13 (2D) Brill like MONKEY ISLAND
G657 AMOS LOADSA MONEY best FRUIT-MACHINES
G659 MR MEN OLYMPIC (2D) many events to complete
G660 4 L.C.D DREAM 4 small hand held games
G664 NEIGHBOUR GAMES (2D) Brilliant graphic
G665 TIME RUNNER (WB2/3) Brilliant graphic
G667 GOLF (2 disks) One of the first PD GOLF
G668 AMOS CRICKET 2 New Amos cricket simulator
G669 MUGSY REVENGE gangster graphics adventure
G672 JIGSAW (2 disks) very playable jigsaw games
G673 BOBBY GARDEN + DIGGER (NEW) Brilliant
G674 HIGH OCTANE (NEW FASTER VERSION) (not WB1.3)
G675 TIME RUNNER amazing graphics adventure
G680 SPACE-INVASION 2 - Fantastic Galaxain
G681 AUTOMOBILES - PD version of SKID MARK brill
G682 BANDIT MANIA - Brilliant fruit machine demo
G685 PROJECT BUZZ BAR - Brilliant asteroid
G687 PARADROID 64 (not A500 1.3) Excellent
G689 GUN FIGHT (not A500 1.3)
G690 THE REAL POPEYE 64 (A500 1.3 only)
G692 SYSTEM DEFEND - Brilliant Defender clone
G698 AMIGA-BOY-Game boy emulator + tetris
G732 DETHELL IN SPACE. Recommed.
G735 OVERLANDER Brilliant arcade MOON ALERT
G737 SERIOUS BACKGAMMON The best in PD BG
G771 STAR WOID (2 Disk) brilliant Thrust
G772 UN-SENSIBLE SOCCER very similar to Sensible scoccer games. RECOMMENDED
G773 FRUIT MANIA - Brilliant Fruitmachine.
G774 TRICKLE TREAT - like DOOM on the PC
G775 FOOT-BALL MANAGER - new version
G782 SOLO ASSAULT 3D like Wing Commander
G783 SEED OF DARKNESS - Brilliant graphic adventure
G784 NANO FLY Superb explore game RECOMMENDED
G785 THE GREAT GOLD RAID - very addictive
G787 ANT WAR V1.9 (LATEST) not 1.3
G788 ZENO-MORPH - Great graphics
G789 TASK FORCE very good MIND SHADOW clone
G790 GREEN FIVE Amazing graphic like FLASHBACK
G791 PROFESSIONAL BINGO CALLER
G792 MARTIAL SPRIT brilliant STREET FIGHTER II
G797 INTENSE like AKAI-WARRIOR in the arcade
G798 6 EXCELLENT CARD GAMES collection
G799 MOOSE DRIVE (A500 1.3 needs 1mg chip ram)
G809 BLITZ 2 fast action shooting games
G810 EXIT 13 Brilliant puzzle
G811 TEMPORAL MISPLACEMENT- graphic adventure
G812 A DAY AT THE RACES - V.Good horse racing games
G820 BOULDER ORIGINAL with 80 levels
G821 BOULDERDASH CAVE/LEVEL CONSTRUCTION KIT
G822 BOULDER COLLECTION 2/3 160 level (2 disks)
G837 BOULDERDASH 80 cave/level
G839 BOULDER PACK 640 BRAND NEW LEVELS on 8 disks, must for all Boulderdash fans
G860 ALIEN NETWORK - new Space invader
G862 BATTLE FORCE excellent text adventure.
U863 GNU CHESS the best chess with 10 level
G866 SWORD OF YIG Graphic adventure
G867 POWER-TETRIS 1 or 2 player Tetris RECOMMENDED
G868 SUPER SMASHING TETRIS very playable Tetris
G870 CHESS II & CHECKER One of the best around must for all CHESS or CHECKER players
G871 GRAVITY FORCE 2 1 or 2 player thrust clone
G872 SCHNEBITZ Commercial quality puzzle games
G875 DELEXE GALA v2.3(new) add new feature & bonus game + 2 player RECOMMENDED. Get it now
G876 THE KRILLIAN INCINDENT like ELITE 2/Epic
G878 QUANTUM - Maze collect & escape type games
G879 RAGS TO RICHES - like MONOPLY
G884 WIPE OUT- mindless blasting game
G885 GODZILLA Another shoot-'em up
G886 SUPER MEGA FRUIT- All new Fruit Machine
G887 STEWARDS ENQUIRY New Horse racing games
G888 DRIVING MANIAC 3D (fill vector like Indi 500) car racing - very fast. RECOMMENDED
G889 PLANET FALL - Luner Lander clone
G890 INTENSE 2 Follow up to part 1 RECOMMENDED.
G891 BUCK TOOTH ADVENTURE Very good multi level shoot/collect em up RECOMMENDED
G892 PENGO 2 - Maze type games. Recommended
G893 SUPER OBLITERATION Blast asteroid very similar to PANG 2 lots of weapons. RECOMMENDED
G894 SUPER INVASION II - New SPACE INVADER
G896 ULTIMATED QUIZ - pub style quiz machine
G897 THE SHEPHERD Brilliant POPULUS clone. REC.

EDUCATIONAL

E001 KIDS PAINT excellent Paint program for kids
E002 COLOUR IT brilliant computer colouring book
E003 TREASURE SEARCH find the hidden treasure.
E004 LEARN & PLAY I (not A1200) many maths & games
E005 LEARN & PLAY II more education programs
E006 SPANISH TRANSLATOR Spanish <> English
E008 MR MEN (WB1.3) brilliant story adventure
E009 ASTROMY tutorial on solar/star etc system
E010 SIMON & SPACE MATHS maths & Simon games
E011 EDUCATION PACK (5 Disks) packed with lots of ed programs ranging from maths to games recommended
E019 DINOSAURS teaches you all about Dinosaurs
E020 WORLD DATABASE requires (2+ meg)
E021 STORY LAND II interactive puzzle games rec.
E022 LANGUAGE TUTOR teaches you 4 languages
E023 TALKING COLOURING BOOK talking Dpaint brill
E024 EASY SPELL II improve your kids spelling
E025 SCRABBLE requires 2-4 players, brilliant
E026 WORDS can help you solve the crossword
E027 OSWALD Very colourful large cartoon game
E030 EVOLUTION breed your own hybrid
E031 IQ TEST + IQ GAMES pack 1 excellent
E033 TYPING TUDOR very good typing tutor
E035 CHESS HELPER help/teach how to play chess
E036 BASIC TUDOR learn about Amiga basic Prog
E038 AMIGA TUTORIAL 7 part tutorial
E039 COMPUTER CARE how to care about AMIGAS
E040 GUIDE TO LOWER BACK PAIN tutorial about the spine & how to avoid back pain. Recommended
E041 KIDS ALPHABET displays all alphabet letters
E042 FRACTION & SILOUEST maths & games, excellent
E043 MATH MASTER teach/test you more on maths
E044 STEAM ENGINE V2 graphics & tutorial
E045 PETROL ENGINE tutorial & animated graphics
E046 GAS TURBINE ENGINE tutorial & anim graphics
E047 STIRLING ENGINE tutorial & anim graphics
E050 DREAM FOR ANGEL explains the meaning of dreams
E051 INVISIBLE WORLD brilliant, recommended
E052 FISH TANK turn your Amiga into a FISHTANK
E054 DEMOLITION MISSION simple game for kids
E055 WORD POWER solve crossword puzzles etc. Good
E056 WORM HOLE simple game, ideal for children.
E057 APPLE CATCHER catch falling apples, brilliant
E058 CROSS MAZE & CRYPTOKING 2 excellent kids games
E059 VERB QUIZ find the word & its relatives. Brill
E061 KING JAMES BIBLE (4D) complete bibles, excellent
E066 TARROT clairvoyace in a instant
E068 GALLOW fancy a game of hangman?
E070 MATH DRILLS teaches all basic maths skills. Vgood
E071 ERROR INFO give info on why your Amiga crashes
E075 WORLD-WAR 2 graphics tutorial on WORLD-WAR releated program eg simulate Starprobe/ molecube/ etc
E076 SCIENCE an excellent collection of science. Ideal for all who are interested or studying science. Recommended. This pack comes on 4 disks
E080 KIDPRIX great childrens paint program
E081 ASTROMY PACK- This is an amazing collection of programs related to astronomy. Can help to locate certain or star positions etc. Must for anyone who studies astronomy or hobby. Great (4 DISKS)
E073 PICTURE & LETTER learn to read - first step
E074 AMIGA BEGINNERS GUIDE tutorial on Amigas
E085 NODDY PLAYTIME demo. Very good
E080 KID PRIX more excellent paint programs
E081 D.T.P FOR KIDS easy to use, excellent
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E094 HIGHWAY CODE TUTOR questions on highway ...
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E098 BACK TO SKOOL vol 2 an education program
E099 BACK TO SKOOL vol 3 & games. RECOMMEDED
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E101 WORLD GEOGRAPHY world with map & text
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E150 INTERNET - FULL guide to internet & superhighway
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E163 JAPANESE - teaches you the Japanese language
E165 KEYBOARD TRAINER An excellent typing tutor
E167 WORD POWER - spellchecker/crossword solver
E163 CROSSWORD CREATOR - design crosswords
E165 CHESS II & TUTOR brilliant Chess II games
E166 PAINT IT (not A500 1.3) latest COLOURING BOOK
E169 HISTORY OF AVIATION Vol 1 Excellent disk
E171 CHILD FAVOURITE - Education program
E175 FRANTIC GUIDE TO COMPUTER (2D) brilliant & fun
E177 CYBER PUNK 2 for Cyberpunk freak only
E181 SIGNTURE CREATOR customise your own signature
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E184 IMAGINES VIDEO 2 disks
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Logic 3 Freewheel Steering Wheel

Price: £12.99

QuickJoy Foot Pedals

Price: £12.99

There have been many pointless peripherals in the past merely for novelty use. However, a steering wheel for racing games on the Amiga seems logical to add to the realism and enhance gameplay. If you want to experience all the thrills of Formula One or off-road antics, a steering wheel could be just what you're looking for.



The steering wheel feels comfortable in your hands, but it's not attached to a steering column. I didn't think it would work without a stand of some description – but it did.

The idea is to hold it in the air – roughly in the centre and push it gently forward to accelerate and back to decelerate. This works because the wheel's plastic casing contains mercury which flows to the side you turn the wheel – touching sensors which act accordingly. Two buttons on the inside of the wheel act as fire buttons, and they can also be used for changing gear or, in futuristic racing games, to fire missiles.

I tried the wheel with all the driving games I could find in our dusty games cupboard – Formula One Grand Prix, SkidMarks, Nigel Mansell and ATR. Although the wheel worked really well with all of them, Formula One Grand Prix stood out from the rest. This was possibly because it's a simulation rather than an arcade racing game.

Your everyday run-of-the-mill joysticks are more than adequate, but if you want to add a lit more realism to your racing games then the stee ing wheel is a very worthy purchase. For or £12.99 from Special Reserve, it's the perfe accessory for racing game fanatics.

The Foot Pedals are an extra extra periphera you like. They can certainly be used in conjuncti with a joystick, but to achieve the greatest drivi experience you must use them in conjunction wi the Freewheel steering wheel.

The three pedals can be programmed to yo particular preference via a small switch-box on th outer casing. They are quite robust, so you ca stamp on them as much as you like.

I was perfectly happy whizzing around a trac on Formula One Grand Prix, unaware that th pedals were sliding half-way down the office. Th small grips on the bottom aren't particularly effec tive, and only by wedging the pedals against th desk did I manage to proceed.

As the grips were my only major gripe, I sugge you seriously consider adding the QuickJoy peda to your list – along with the steering wheel. Anoth essential purchase for budding Damon Hills.

Periph

Aura Interactor

Price: £99

The Interactor is a device you strap on to you self much like a rucksack. You plug the include amplifier into the sound ports in the back of th Amiga which sends channelled vibration through to the huge box on your back throug electromagnetic actuators.

'Feel the bass beat of hard driving mus soundtracks or the pavement-pounding intens ity of a movie's high speed car chase!' Ye that's what it says on the box. And yes, that what it exactly doesn't do.

I don't know how the Interactor would fa when plugged into the television, but it certa nly doesn't work on the Amiga. All you can fe is one very large thud after another. You on feel it on your back too! How many times hav you been punched solidly in the centre of you spine? Surely a facial interactor would be mor

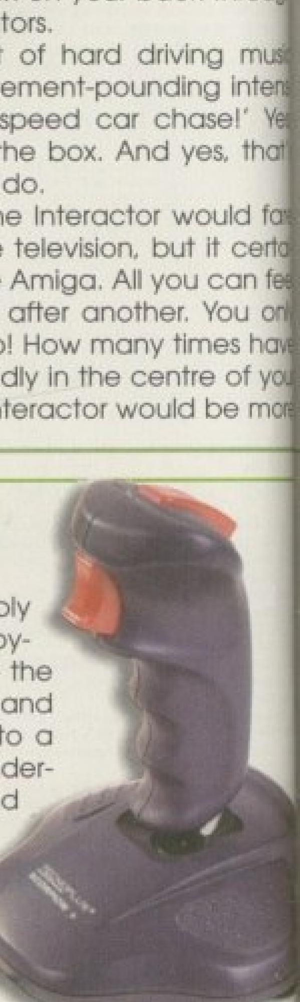
Tecnoplus Scorpion Plus Joystick

Price: £10.99

Another product from Tecnoplus, only this time a joystick. These joysticks do tend to annoy me a little. The micro switches seem to make rather a loud clicking noise when you use the direction, especially when you play a quick game which requires a lot of movement. Usually, these tend to suit flight sims as they are large and feel very slow.

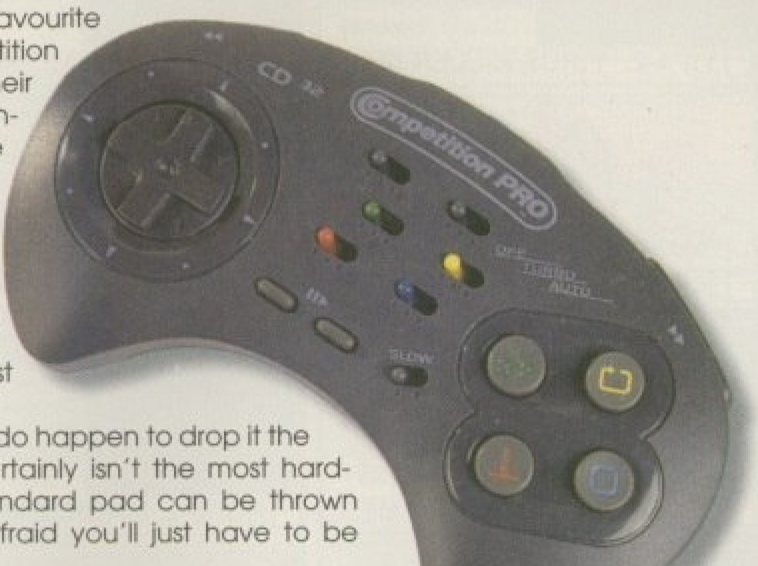
The Scorpion Plus joystick from Tecnoplus almost certainly works well with flight simulations, and is extremely durable. It is probably one of the most hard-wearing joysticks available at the moment – the base of the joystick is very wide and solid, enabling you to attach it to a table using the plungers on the underside. This adds to the stability and allows you to wrestle with it without it detaching itself.

Overall, it is a sturdy joystick which will work well with any particular game and will last you a very long time.



CD32 Competition Pro Control Pad

Price: £15.99



Competition Pro have always been my favourite manufacturer, producing the old Competition Pro joysticks. Competition Pro, now making their way on to the CD32, have introduced a control pad to better the standard Commodore one.

The pad contains four buttons in total, not including the eight directional pad, and each one has its own colour and symbol specially for the CD32. There is an auto fire and turbo fire option for each individual button and it has to be one of the most comfortable pads at present.

The only major gripe is the fact that if you do happen to drop it the plastic inside is guaranteed to crack. It certainly isn't the most hard-wearing of pads around – in fact, the standard pad can be thrown around without a single scratch. So, I'm afraid you'll just have to be careful with it.

If you are completely and totally sick of your standard CD32 pad and want to buy the best, then the Competition Pro Joypad comes top of the list. No problem.

Game makers think of everything – graphics, sound and gameplay. But what about that little something extra? Andy Maddock investigates

eral port ticklers

effective, or even a gonad interactor.

Playing a game while being annoyingly thumped in the back is not my idea of fun. You may as well get someone to hit you in the back while you continually throw £50 notes out of the window. Oh yes, did I mention it costs £100?



PC Mission Joystick

Price: £12.99

Amiga Anologue Adaptor

Price: £8.99



The PC Mission is a professional analogue joystick which is obviously used for analogue Amiga games. You'll have to be careful here as there aren't many around. For instance, the only one that instantly springs to mind is MicroProse's Formula One Grand Prix. I'm sure many flight sims out today do have an analogue option, but it also works normally for other games.

The PC Mission has a very large angle of axis and enables you to control the action slowly and progressively. This is certainly not recommended for Sensible Soccer, but for flight sims it could be a reasonable purchase, depending how often you play them.

There is a catch too. If you buy a PC Mission you have to invest further for an adapter to allow you to use it with your Amiga. At a total cost price of £21.98, you are probably better looking out for an Amiga-oriented joystick that will be almost certainly much cheaper.

Tecnoplus Control Pad

Price: £12.99



Tecnoplus, a company who aren't particular well known by Amiga owners, have decided to introduce peripherals into their production line, one of them being a control pad.

Unlike many other joysticks and control pads, this one is a nice creamy colour. It doesn't have the slickness or style of a Competition Pro, but looks aren't everything.

There is the usual eight-way directional control with three fire-buttons – particularly good for shoot-'em-ups. It feels very comfortable and will sit in your hands for hours without raising a blister. However, it will only work with the Amiga itself, not the CD32.

It comes with an auto fire switch – absolutely essential for shoot-'em-ups, although many people believe the auto-fire takes the enjoyment out of a game. Also included is a special turbo fire which increases the rate of firing in most games.

Overall, this control pad is fairly well presented and should last a very long time. A worthy purchase.

Suppliers

Foot pedals, Freewheel, CD32 Pad, PC Mission and Analogue Adapter supplied by Special Reserve
Tel: 01279 600204

Tecnoplus Control Pad and Scorpion Plus Joystick supplied by Tecnoplus - Leisuresoft UK
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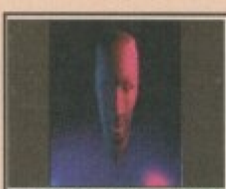
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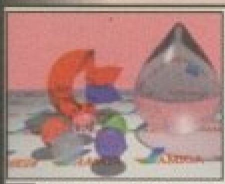
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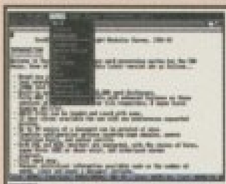
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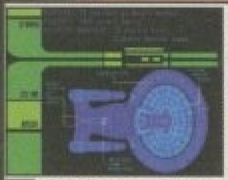
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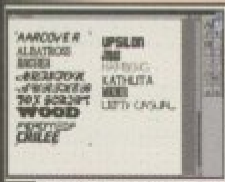
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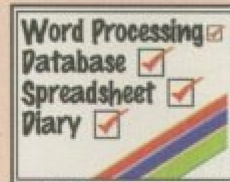
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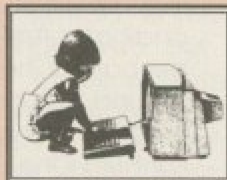
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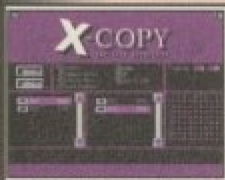
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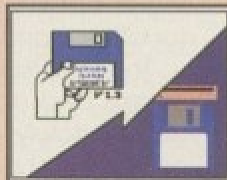
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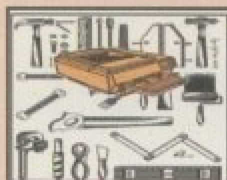
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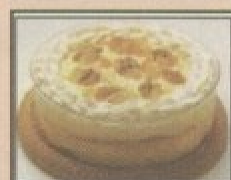
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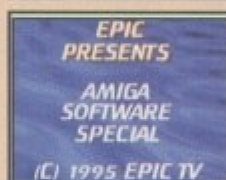
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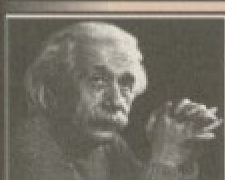
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☐ **ABG9-5. BEGINNERS GUIDE**

EPIC MARKETING, FIRST FLOOR OFFICES, 138 - 139 VICTORIA ROAD, SWINDON, WILTS. SN1 3BU

> “As a one-player game, **Base Jumpers** is unexceptional, but get some friends involved and the title really comes to life”

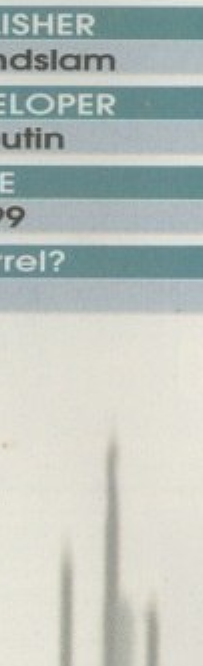
Base Jumpers

CD32

Reviewed by Tina Hackett

GRAPHICS	51%
SOUND	58%
GAMEPLAY	65%
OVERALL	70%

PUBLISHER	Grandslam
DEVELOPER	Rasputin
PRICE	£19.99
Squirrel?	No

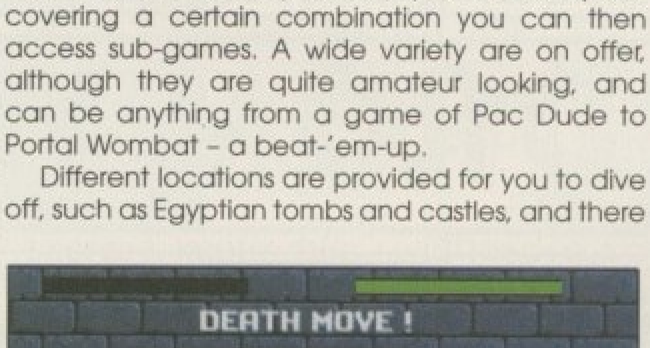


Base Jumpers arrived on the Amiga not so long ago and at first glance you could be forgiven for thinking it was an old Spectrum game from aeons ago. However, beneath the rather average graphics there's some very entertaining gameplay.

The game is divided into two parts. One is a rather basic platformer, the other – by far the most entertaining part – is a sports event of sorts. Players become the members of a group called the East Beckinsdale Pigeon Fanciers Association who all take part in the strange pastime of Base Jumping. This involves climbing to the top of a tall building and then jumping off – the first to the ground wins. You have a parachute to aid the fall but the first to pull the ripcord will be the last to land. However, the later you risk it, the more chance you have of ending up flattened.

During these events you will uncover bonus letters. They can score you extra points and by discovering a certain combination you can then access sub-games. A wide variety are on offer, although they are quite amateur looking, and can be anything from a game of Pac Dude to Portal Wombat – a beat-'em-up.

Different locations are provided for you to dive off, such as Egyptian tombs and castles, and there



The sub-games are mainly there for comic value. Take, for instance, this falling sheep death move!



The platforming aspect of the game provides the usual challenges

are the usual platformer obstacles to overcome. Ladders should be climbed, crumbly walls busted down, and inhabitants of the buildings avoided.

This CD32 version comes with extra enhancements and additional levels. The music has been tweaked and a bit of culture added with some opera (dubious!). Sound effects provide humour such as grim squelches when you collide with an object.

Additional levels include 'Kung Foo' and 'The Therapeutic Event,' and there are more sub-games too such as Jet Fighters, Racing Cars and Ballroom Dancing. The existing levels have also been tuned up and have new graphics.

Final word

Although there are many sub-games available in this one title, they are mainly there for novelty value and comic effect rather than providing in-depth gameplay. This really applies to the game overall too. The multi-player mode allows up to four players to compete (two on each joypad) and this sort of game really lends itself well to this. As a one-player game, Base Jumpers is unexceptional, but get some friends involved and the title really comes to life.

By Tina Hackett

Team 17 are synonymous with excellent Amiga games. Their back catalogue includes such classics as Alien Breed and Body Blows, and most Amiga owners will have at least one of the four-year old company's titles in their collection.

Their first game was a beat-'em-up for the Amiga called Full Contact, but things didn't really take off for them until their second game, Alien Breed. Project-X and Alien Breed Special Edition followed, the latter of which stayed at Number One in the Gallup Charts for 33 weeks – a record which no game has yet beaten.

Team 17's future release schedule also looks set to please with multi-format launch Worms, Zelda-esque adventure, Speris Legacy and Alien Breed 3D – not to mention Final Over – Arcade Sports Cricket.



On your mission you will interact with all manner of creatures



Graphics promise to be of a high standard

The speris legacy

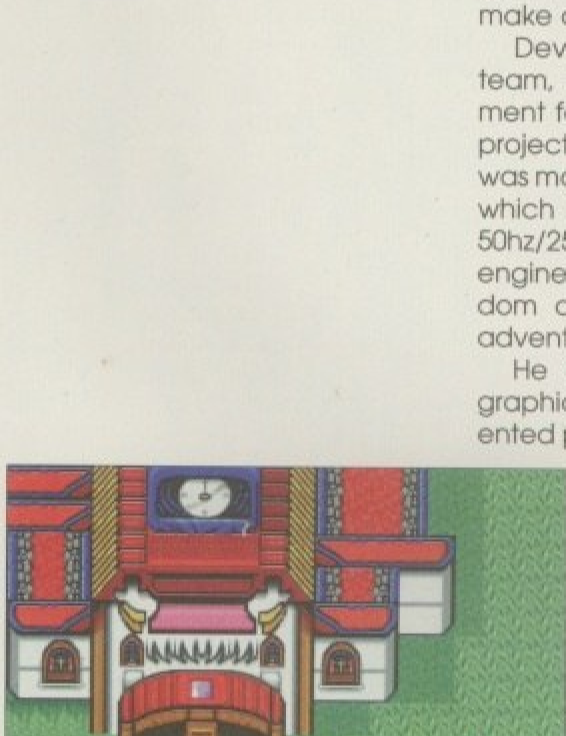
Their latest adventure title, Speris Legacy, intends to bring a similar title to Nintendo classic, namely Legend of Zelda, to the Amiga. Alan Bunker, for Team 17 stated: "We feel the Amiga has at last gained itself a playable game of this genre whereas, in the past, it has been sadly lacking. It'll be interesting to see what the console owners make of this!"

Developing the game are Wiltshire-based team, Binary Emotions. It has been in development for just under a year and is their first Amiga project. Graphic artist, Ian, explained: "This time was mainly spent on building up the game engine which runs at a full 50hz on AGA machines and 50hz/25hz on ECS. It also contains a nifty text engine which allows us to give the player the freedom of conversation usually found in graphic adventures."

He continued: "But the problem with most graphic adventures is that the more action-oriented player is left cold. Speris merges this type of interaction with the popular Japanese Actio[n] RPGs. This gives the players of both genres th[e] chance to experience a change in game format plus something familiar to contend with."

In the game you play Cho Hagwai who is on a mission to avenge his friend's death. You start off with no more than your initiative and have nine locations to explore which include Spiral City, Sandoon Hideout and Cow-Tree Island, and each has a sub-location such as church or a house. The character also has the ability to swim in rivers or lakes, teleport and leap across ledges.

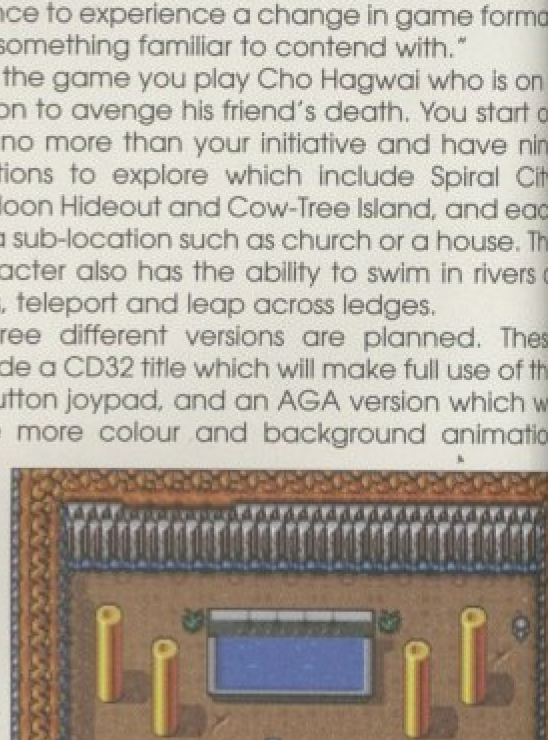
Three different versions are planned. These include a CD32 title which will make full use of the six button joypad, and an AGA version which will have more colour and background animation



Binary Emotions intend to mix puzzle solving with combat



The character has many methods of defence at his disposal



The game has taken just under a year to complete and is the team's first project

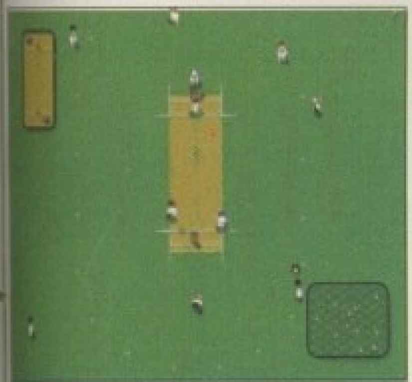
plus better sound. It will also make use of the AGA's 64-bit wide sprites. The ECS A500+/A600, though, will have all the gameplay but without the refinements. An A500 OCS version is under consideration depending on demand, but it will have smaller locations and different puzzles.

Binary Emotions are pretty confident in their new baby as a sequel is already planned and certain puzzles from Speris will be linked to their follow-up, Emperor Rising. Ian stated: "This will be AGA and PC only as we plan to use 256 colour rendered artwork and some truly amazing audio." Confidence is also high in Escom: "We plan to launch this in February '96 to coincide with the launch of Escom's newly planned Amigas."

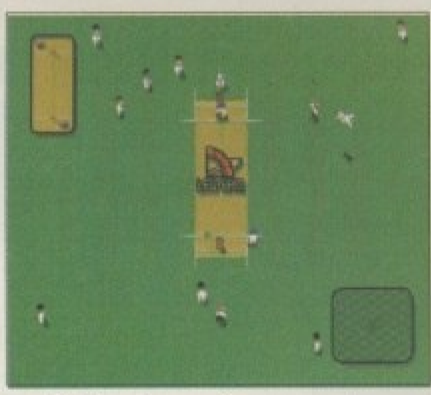
As well as this, two more games are also on the horizon. An arcade strategy, Nemesis Syndrome, promises destruction, Mechs and chunky weapons in a mysterious quest to destroy or recover the Nemesis project. Work will commence on an 'addictive' arcade puzzler called Minskies Furrballs (Minsk, incidentally, is a cat in Speris) and will combine the qualities of Puyo Puyo on the SNES and Dr Robotnik on the Mega Drive. Speris Legacy should be available in the very near future and it'll be interesting to see how it fares against competition from Krisalis', Legends.

> “The problem with most **graphic adventures** is that the more action-oriented player is left cold”

Final Over – Arcade Sports Cricket



The developers have gone for a fun-looking approach



All the players have different strengths and abilities

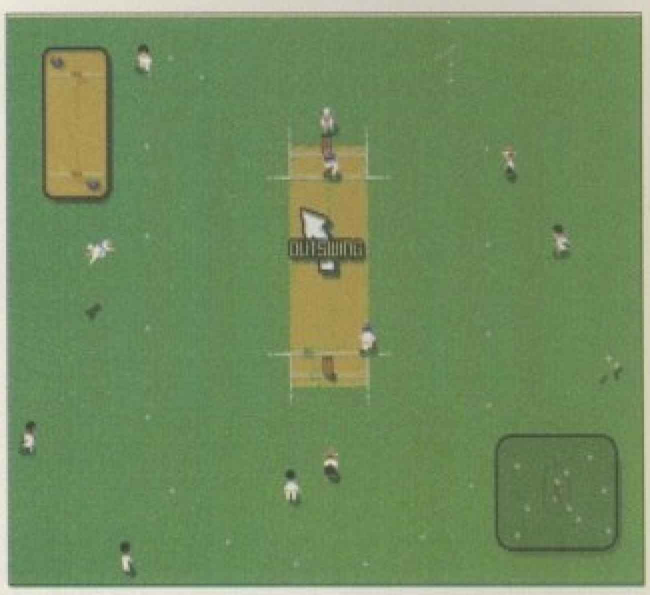


A multi-directional, smooth-scrolling field will ensure a good view of the match

There's been little to challenge Graham Gooch's Cricket on the Amiga up until now, but Team 17 are hopeful that their forthcoming release will change things. This is the first game from the developer, Alan Carter, and opts for a more fun approach than the traditional sims. Called Final Over, it uses animated miniature sprites who can throw, run, dive, crouch and celebrate, and each player has their own characteristics.

County teams as well as national teams will be included, and you will also be able to create your own. The amount of matches you play can also be defined from one to five-day series, to limited-over matches. A fully detailed scoreboard will also be provided.

Cricket match atmosphere will be added through crowd cheers, player outbursts and the thwack of the ball being hit. Final Over will be priced at £12.99 on disk and £14.99 on CD.



Choose from county teams or national, or create your own

Worms

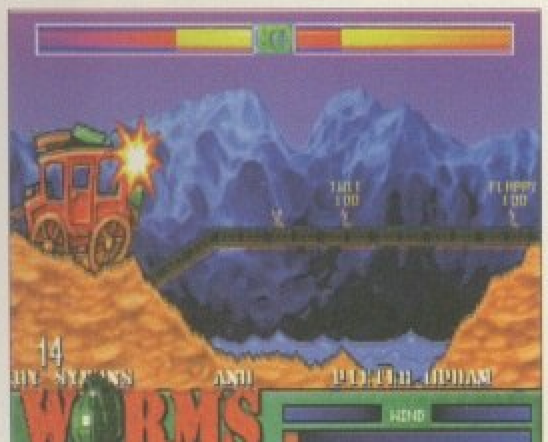
Worms is well on the way to an Autumn release - new levels are being added all the time to this multi-player arcade strategy game. It's going to be a multi-format title and some are already predicting it as the most playable game of the year. You play a worm or team of worms and the object is to kill the opposing team in a manner of devious ways.

You can take part in worm-to-worm combat, escape by tunnelling, build bridges and send bazookas and homing missiles flying into the opposition.

The latest scenario to be added to this game is Hell – screenshots of which you can see here.



One of the latest levels to be added to Worms is 'Hell'



The multi-format launch that some are already predicting as the most playable game of the year

Time

Vulcan Software are from the old school of software companies. With no backing from the likes of Virgin, Electronic Arts or other corporate powerhouses, they have taken the brave move of being one of the only independents still operating commercially in the Amiga gaming arena.

Their first release, Valhalla, caused quite a stir – some magazines proclaimed it as a great white hope, while others slammed it for fundamental game design faults, this magazine among those critics. Timekeepers, their second release, has fortunately made a hit much closer to the playability bullseye.

From scanning through the instructions and looking at the screen set-up, the first reaction instantly rings bells of recognition – it's that damn game Lemmings again in a different guise. In all fairness, though, on playing Timekeepers there are enough differences to warrant some of the game mechanics as original and interesting.

The back-of-the-box blurb comes up with the usual creaking at the joints story – Evil bad guy has decided to dump 20 nuclear missiles in four different time zones. The elite police force, the Timekeepers, have decided to send back 15 officers to dismantle the devices.

The four time zones are Hieronymus Land 2m BC, Medieval Land, Vietnam Land and Space Land 2001. Each zone has 15 landscapes to traverse before reaching the bombs. Starting with 15 troops, each landscape is a vertically scrolling obstacle course.

Looking at the icons, there are obvious similarities between Lemmings and Vulcan's title. Like the classic puzzler, each troop walks quite haplessly into a fiery pit if its path should cross such a hazard, and the little blighters need to be told exactly what to do and where to go. There are several options for manipulating them though.

Troops can be told to move in a certain direction, to jump, enter combat with any foe that may be blocking the path, to operate a switch, to wait, or to start the level again. The main and most important difference to Timekeepers from its legendary distant cousin, Lemmings, is the actual implementation of your commands to the troops.

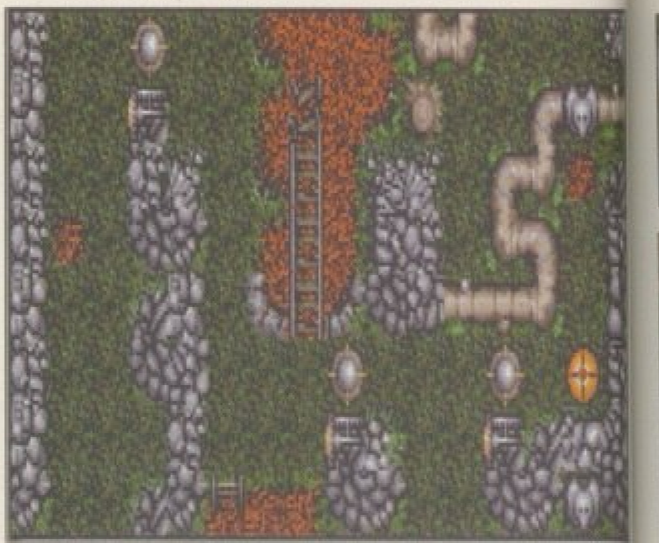
Instead of clicking on them at the right time when they come across an obstacle, Timekeepers allows you the benefit of time by clicking on the desired icon and then leaving a trail of instructions on screen for the troops to follow when you decide to unleash them proper. When they step on the order placed on the ground, they carry it out.

This usually involves much mindbending as you work out the best route for all the little fellows to reach the exit point that leads to the next level. Then you use one of your men to move through many of the one-way systems, opening doors, setting up bridges and more so that the others can follow at a later stage.

This lack of oh-god-they're-all-going-to-die commonly found in Lemmings makes a refreshing change and leaves the player with plenty of time on their hands to concentrate on working out the fiendish layouts. One of the best parts of the actual puzzles are the amount of red herrings the

GRAPHICS	70%
SOUND	77%
GAMEPLAY	82%
OVERALL	80%

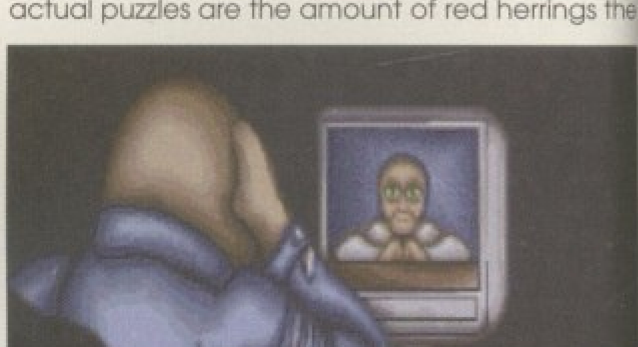
PUBLISHER	Vulcan Software
DEVELOPER	In-house
PRICE	£12.99
DISKS	2
HD INSTALL	Yes
SUPPORTS	All Amigas, 1Mb min



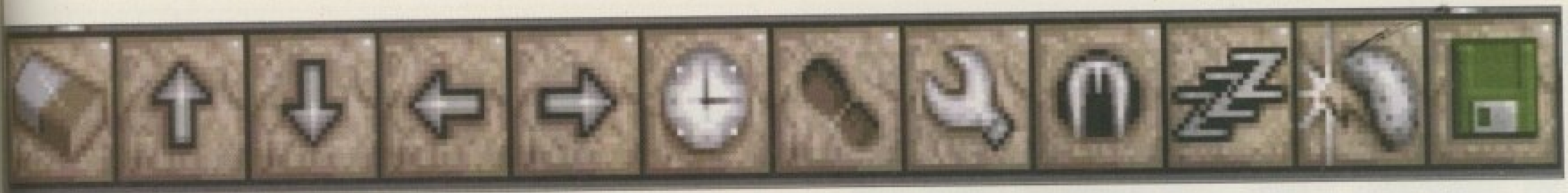
Traverse the landscape and reach the exit



The white marks on the playing area represent the different orders the troops will have when they touch them



The animated intro fills you in on the story so far





A bird carries our brave soldier across a ridge after he pushes a button

From left to right – erase, move in the four different directions, wait, jump, operate, attack, pause, start again and load and save options

keepers

Reviewed by Adam Phillips

designer has left for you to follow – this really is the thinking person's game.

Despite the lack of time limit, mistakes can be easily made – a directional arrow pointing in the wrong direction, a jump command erased by troop confusion so that the next blighter that comes along ends up in boiling lava, and so on. It is possible to use just one troop and finish all the levels, but to hinder lazy gamers it is necessary to have a certain amount of troops remaining to defuse the bombs, depending on which time zone you're in.

There are plenty of nice touches in Timekeepers, such as the transport and finding vital paths through the treacherous landscapes – punch a switch and a bird will pick you up and carry you over a previously insurmountable mountain, or flick another switch and a lava-buried bridge is winched up to form a walkway for your troops.

Graphically, the whole thing is very much in the style of Valhalla, with murky colours and smudgy-looking graphics. While these work and move effectively, it would have been nice to see some more vividly defined graphics.

As is the norm with Vulcan Software, there are various amusing sound effects and speech samples littered liberally throughout the game – the commander of the police force regularly calls out at the beginning and end of each level, and the various in-game effects are of a quality standard such as the shouts and screams given when a troop enters battle.



Your troops prepare themselves for teleportation to the next time zone

> At £12.99, Timekeepers offers **good value for money** and packs a healthy amount of playability



Make sure you keep some of your characters alive for the final defusing stage

Final word

There's no doubt that this is Vulcan's best release so far, with an engaging game system that is easy to use and rewarding when your plans are successful and your troops drop though the exit one by one.

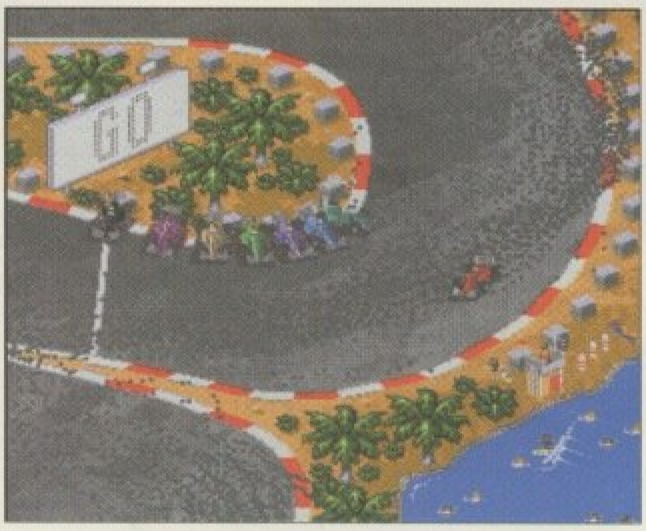
At £12.99, Timekeepers offers good value for money and packs a healthy amount of playability to whitter away the hours. The game is only available from Vulcan themselves, so for ordering information give them a call on 01705 670269.

My only problem with Timekeepers is that it could become repetitive after a while – perhaps it would have been nice to see more commands that could be issued to your troops in later levels to extend the addictiveness of the game.

Despite this though, if you only have a few pounds struggling for space in your pocket, give them a breath of fresh air by sending them off to Vulcan and buying a copy of Timekeepers.



The harder tracks beome chaotic and take some practice



Different backgrounds make Super Skidmarks visually appealing

GRAPHICS	75%
SOUND	72%
GAMEPLAY	90%
OVERALL	89%

> "Without a shadow of a doubt, this is one of the **most playable** racers available"

CD32

Skidmarks

Reviewed by Tina Hackett

PRICE
£29.99

PUBLISHER
Guildhall Leisure

DEVELOPER
Acid Software

SQUIRREL
Yes

Acid Software have earned themselves a reputation as top-quality developers and with such classics as Guardian and Roadkill under their belt, it's hardly surprising. However, arguably their best work to date can be found in Super Skidmarks, the sequel to their highly acclaimed race-'em-up, Skidmarks. Receiving rave reviews, including 89 per cent from ourselves, it's now available for the CD32.

There is not a great deal of difference between the versions, although with the CD32 you get a playable demo of their blast-'em-up, Guardian, the movie from Roadkill and the PD version of Defender.

With the sequel comes new cars. These include the very novel cows on wheels to VWs and Minis. Although they don't alter the race particularly, you do get a fun graphical style. Towing caravans is also possible and provides for an extra challenge. You can choose to race in different modes such as pedal car or slippery, and this changes how easy it is to control the car and allows you to get in some practice before the real racing starts.

Up to eight cars can be raced at the same time and the challenge is to treat the vehicles like Rally cars and slide them around the tracks rather than steer them.

The variation in the tracks also works well. From the 12 available, some are the easier figure-of-eight style whereas the harder are the more windy spaghetti type. Surfaces also vary, with bumps and ramps and oil slicks giving the racer added problems. The many options available allow the game to be customised to your liking. Different screen modes, for example, can be changed to a split screen or a wider angle depending on how you want to view the game.

The graphics remain fun throughout and the different locations are conveyed well, from desert tracks to sandy beaches. Attention to detail has been paid to the backdrops which vary from palm trees in the background to miniature spectators watching from the sidelines. The miniature matchbox cars also add to the fun feel.

As the cars screech around the circuits tyre tracks are left in the dust, and as the race progresses the track becomes more and more churned up. This works well and adds an authentic touch.

Final word

Without a shadow of a doubt, this is one of the most playable racers available. Each track provides a different challenge, while the different speeds allow all levels of skill to compete. Multi-player mode is where the game comes into its own though, and brings to it a really competitive pace.

Despite no other enhancements for the CD32 version (the manual hasn't even been amended accordingly) it still comes highly recommended.

SYSTEM

review



The actual match highlights, as you can see, are quite in-depth showing everything from injuries to corners

Top Of The League

Reviewed by Andy Maddock

GRAPHICS 62%

SOUND 71%

GAMEPLAY 75%

OVERALL 74%

PUBLISHER
Digital Warehouse

DEVELOPER
Trident

PRICE
£25.99

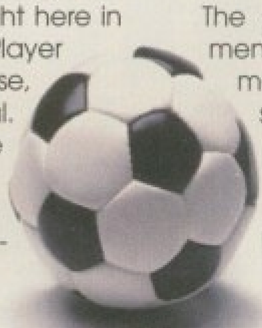
DISKS
3

HD INSTALL
No

SUPPORTS
All Amigas

I expect you'll probably be dreading these next few paragraphs as no doubt you'll have heard it all before. However, don't write off Top Of The League's chances yet. You never know. Having been a football fan all my life, I seem to get all the new football games jumping onto my desk in a fan-fare-like fashion, and to be honest, when you review one or two a month, like I do, they tend to become a tad repetitive. Bear with me though, as I plough through another 300 seasons in an attempt to bring you the low down on Digital Warehouse's latest football management sim.

Two of the best football management games have actually made an appearance right here in this very issue. These happen to be Player Manager 2 and On The Ball. To beat these, Top Of The League has to be very special. In fact, damn near perfect to reach the standards these two giants have set.



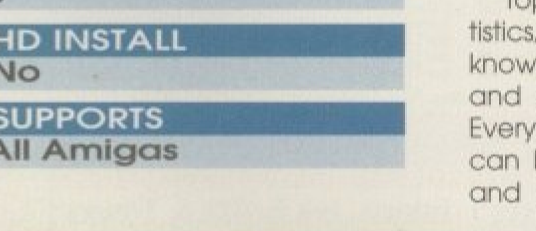
Top Of The League is a management simulation only. You don't get to physically play the games, just watch. The idea, as with most management games, is to win promotion from the third division into the Premier League and pick up every domestic trophy available in the process.

Top Of The League contains a whole host of statistics, but it's a pity most of them aren't really worth knowing as they all seem particularly irrelevant, and they don't affect the match sequences. Everything you'd ever wish to know about a player can be accessed – birthdate, birthplace, height and weight are just a few. The actual player statistics are measured in the most complicated way, becoming very difficult to assess the player's true value. They are rated from poor to brilliant and when each player has about 20 different statistics it's difficult to reach an overall rating.

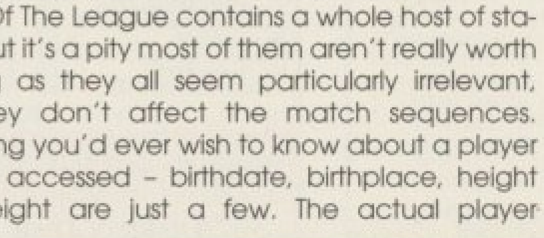
> ‘The actual depth of **Top Of The League** is quite remarkable’

The game itself is accessed through various menus and, sadly, are all joystick controlled. The mouse pointer is actually there, but doesn't serve any purpose. This is a real disappointment because the mouse is a far more accurate and comfortable way to play a game – especially if it's for a particularly lengthy period. The match sequences are reasonably exciting, although there are so many numbers flashing on and off the screen it is difficult to assess your overall team performance. By the time you've read them, the match will be over.

The actual depth of Top Of The League is quite remarkable. You can look at any player's history and give them a man-to-man pep talk. If he was booked during the last game, you can give him a good telling off and instruct him to try harder. You can even have a friendly chat about the weather if you wish!



The full player analysis allows you to study each player's individual statistics



The round-up comes in handy when you what to quickly glance over your team

Final word

Top Of The League is definitely a football fan's game. If you've ever experienced the delights of standing in the rain without a brolly, and clutching a cup-a-soup, you'll get more enjoyment out of this than anyone. After all, football fans like realism, and if you want realism such as the half-time tannoy blaring out a tune while you sip your cup-a soup and take a bite out of a hot-dog, then why not give it a try? It will almost certainly appeal to those who turn up week in week out at a lower division game that gets less coverage than Manchester City on Sky.

Cmpo

System competition form

1: Who was the first to establish colonies in the New World?

- ☐ The French
- ☐ The Spanish
- ☐ The Dutch

2: Who financed Columbus on his journey to the New World?

- ☐ Henry VII
- ☐ Ferdinand of Aragon
- ☐ The Pope

3: Which ship did Columbus sail on his expedition?

- ☐ Mary Rose
- ☐ Santa Maria
- ☐ Pinto

Tie Breaker: Describe in no more than 20 words where you would choose to set up a colony and why.

____

____

____

____

Strategy Meier Mystery

To tie in with the launch of their latest release, the excellent Colonization, MicroProse are offering some top strategy-type prizes. To stand a chance of winning one of the goody bags, just tick the questions on the competition form.

The winner gets a stylish MicroProse jacket, a copy of Civilization, Sid Meier T-shirt and a Colonization mug. The Runners up will receive one of the following on merit of their tie-breaker answer: A copy of Civilization, Sid Meier T-shirt or Colonization mug.

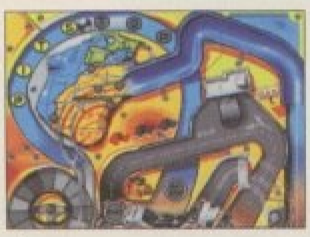
● *Please send your entries to: Strategy Compo, Amiga Computing, IDG Media, Media House, Adlington Park, Macclesfield, Cheshire SK10 4NP.*

SYSTEM

Top slots

Get the low-down on the best games we've reviewed from the past few months

Obsession 87%



This is a very able pinballer it has to be said. It doesn't have the glamour of Pinball Illusions but it certainly gives it a run for its money.

Virocop 85%



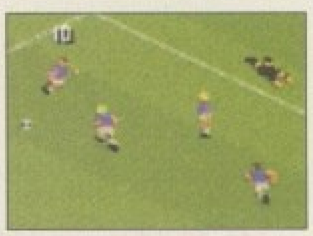
It's not the 'thinking man's title, by any stretch of the imagination, but for the trigger happy this is a title of high quality and provides a great long-term challenge.

Ultimate Soccer Manger 83%



The whole game comes across as extremely polished with great attention to detail. Highly recommended to both fans of the genre and those that would normally give this a wide berth.

Man Utd – the Double 90%



Fans of the previous Manchester United games will love this new addition to the Red Devil's family. It is a complete football package for people who are genuinely mad about the beautiful game.

SYSTEM

budget

Reviewed by Andy Maddock

Subwar 2050

PUBLISHER	Powerplus
DEVELOPER	Microprose
PRICE	£16.99
DISKS	2
HD INSTALL	Yes – essential
SUPPORTS	A1200 & HD

Submarines. Huge torpedo-shaped things that whizz along under water letting off a bleep every three seconds. They're hardly the most exciting method of attacking enemy ships, are they?

Subwar looks a lot like an underwater flight-sim as the controls look and feel the same – the only differences being the underwater graphics and effects. As you begin in the year 2050, you can select a particular war to participate in. Before this, you must plan and carry out some training missions which range from manoeuvring around waypoints to firing at dummy targets. All this practice will enable you to be ready to tackle the important missions later in the game.

There are four large campaigns to take part in – North Pacific, Antarctica, North Atlantic, and Sou China Sea and the Sea of Japan. All these conta sub-missions which you must complete by destro ing primary and secondary objectives. Before yo start your missions you must configure a charact and then arm your submarine with suitab weaponry for the next mission.

The graphics are very limited due to the fa that there isn't that much in the sea to start wit However, the outside views of the submarine a very good and move very smoothly. Because th graphics are not too special, the game runs fast – which in this particular genre is an absolut necessity.

One of Subwar's best points has to be the she depth of the game. There's an abundance of ta tics and strategic options which you can redefin and fine tune for each part of the mission.

Overall, Subwar 2050 is a real breath of fresh a offering plenty of new ideas that have never been tried before. At £16.99, games of this calibre are always worth the money.

85



An inside view from behind the controls. As you can see it does look very much like a flight sim

Mega Traveller 2

PUBLISHER	Action Sixteen
DEVELOPER	Empire
PRICE	£14.99
DISKS	2
HD INSTALL	Yes – essential
SUPPORTS	Aii Amigas

Having never played the first Mega Traveller, I can't really comment on it – although word has it that it was a pretty reasonable game. Mega Traveller 2 – The Quest for the Ancients has a very long and complicated plot which I won't spoil for you, but you take control of five characters – male or female – and lead them around a top-down view of a huge town/city complex. You have to save your planet from deadly slime – original but effective.

Mega Traveller is an interactive adventure game whereby you have to stop other planet re idents asking them questions – until you're blue i the face – to receive various information that ma help you along the way. These characters all hav their own personality and it's quite easy to decid whether to ask them for help or attack them.

All the basic adventuring features (collection gold coins, weapons, information and maps) a included within the game. You select one of th five characters to perform various actions and yo can allocate different objects to each characte

It has to be said that the graphics are nothin special at all. As a matter of fact, they all look ve bland and uninteresting, and because of this I di lose interest. Having not remained interested, inevitably didn't get very far and, to be quit frank, I wasn't enjoying it one bit. Most of the tim the scrolling doesn't catch up with the characte quick enough and when you click on somebod else, the chance of you selecting an actio before the character runs off the screen is ve remote.

There are so many other adventure games t choose from that I advise you to save up an extra £5, because for £20 these days you'll easily find something more worthwhile.

73



So this is what Dave Cusick does on his days off from the Public Sector. Yes, he really looks like this too, girls!

On the Ball

World Cup Edition

This was the first attempt at a football management simulation by Daze and to be honest, it was and still is quite superb. Giving you a behind-the-scenes look at the world of football management, it was probably the most unrealistic game of the genre but was pure fun to play.

After the success of the World Cup Edition, the League Edition was to follow. It contained all the English clubs and basically left out the best bits that made the World Cup Edition so unique.

The object is to lift the former Jules Rimet trophy by scraping through the qualification stage and battling on to the cup itself. You can face the likes of great footballing nations including Brazil, Germany and Italy. You begin by sitting at your desk with your filofax open and the telephone nearby. You can make contact with other mangers and persuade them to play a friendly with you and plan coaching programs.

Once you've roughly decided on your team, you can then begin to organise get-together dates. These are special times during a season where the international team meet on, before, and after their matches. Once you've been lucky enough to get through the gruelling qualification stage, it's time to board the jet and set off to the host country as you begin to battle for the most famous trophy in the world.

Instead of making team selections from here, you will be in your bedroom where you can organise your diary again. This time there are far more options available and everything's left completely up to you. You can, if you wish, spend every night in the pub, never turn up for training, and then get bad reports in the paper the following morning after a particularly heavy night in one of the city's seedy bars. On the other hand, you can talk individually to your team members, hold press conferences and generally run things as smooth as possible. You can even choose a time to get up and go to sleep!



You too can lift the ex-Jules Rimet trophy high in the air with jubilation. This one certainly isn't an arm covered in custard!

The actual match sequences are played using animated graphic sequences which look very impressive. Crowd chants are all there to give the game an atmospheric boost! A major drawback, however, is the fact that it will only work on an A1200 with a hard drive. Other than the technical requirements, On The Ball is highly recommended.

87%

PUBLISHER
Daze Marketing

DEVELOPER
Ascon

PRICE
£16.99

DISKS
5

HD INSTALL
Yes – essential

SUPPORTS
A1200 & HD

International Sports Challenge

Olympic computer games used to be all the rage a few years back – probably because they were currently taking place in Barcelona. Now, with 1996 and Atlanta looming it looks as though we could be in for another helping of physically enduring activities.

International Sports Challenge was obviously released at full price around the time of the Barcelona Olympics. Time has past and it now enters the budget zone. There are six events overall to take part in – diving, swimming, horse riding, shooting and the marathon... or snickers! – and you can compete against either the computer or three other human opponents, with each event containing targets that must be achieved.

In the diving event you must gain points by using different springboards and various positions and entries into the water. The events are usually based on a time basis you must complete the event in. Failure to do so will leave you disqualified from the tournament.

The actual events themselves are reasonably easy to master. However, what is different from most athletic games is the fact that you rarely have to resort to the waggle frenzy, a method I'm sure you're all familiar with. Here, you waggle the joystick quite strategically. For instance, you must keep a steady slow rhythm to keep your runner going at full pace in the marathon and this requires a lot of skill and patience rather than the 'fastest waggler wins' method. This method may not be as much fun, but it's certainly easier on the wrists. International Sports Challenge is a fairly enjoyable game while it lasts, as there are only six events. One run through the game and you certainly won't be itching to go through it all again. It certainly contains some new perspectives which have never been used before in the genre, but overall it's an average attempt.

70%

One of the events is swimming. A relatively easy sport – one which requires goggles



PUBLISHER
Action Sixteen

DEVELOPER
Developer

PRICE
£14.99

DISKS
3

HD INSTALL
Yes

SUPPORTS
All Amigas

AMIGA Snippets COMPUTING

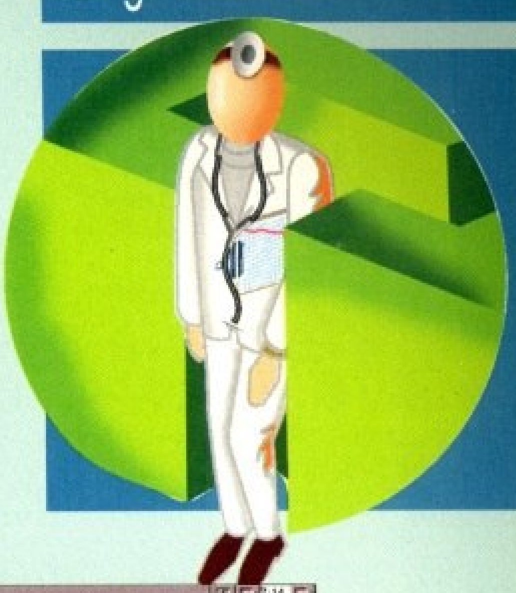
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Whatware?

Amiga Medical Part 8



Frank Nord peruses the various breeds of freely distributable software roaming majestically across the veldt

PD libraries abound and their contents are a cornucopia of free, or seemingly free software. But is all the software you download from the Aminet or BBSs, buy from PD libraries or receive on a coverdisk actually free? The answer is a definite no. The software may be freely distributable, but that only means you are bound to sell the software at the cost of a disk, postage and packing, and your time. This last factor is the one that is most variable, with some companies charging as little as 99p for a disk of shareware, and some as much as three or four pounds, but either way you are still liable for the extra charge payable to the author of whatever program you get.

The major problem that shareware authors complain of is the lack of anyone actually registering with them, and there are some reasons for this. The first is that people simply cannot be bothered. They are quite happy to go on using an evaluation version of a piece of software forever. This happens most of all to programmers who impose no limits on the software they write and only offer minimal benefits for people who register. LHa is an example that comes to mind.

The second reason people give is that most shareware is written overseas and the authors ask for payment in their country's currency. I have sent English money in the post hundreds of times without incident, and have also sent cash overseas on several occasions without problem.

If you are really worried, you can send your letter registered to most countries these days so that if it does get lost or stolen, you still have recourse with the post office. Even if you choose to take the risk of sending money and it does go missing, how much have you lost? A tenner? even twenty quid isn't really all that much.

The third reason is usually dependant on the second one. What if you send the money and the author denies you have sent him anything? To be honest, most shareware authors are so happy at actually having received some reward for their programming skills that you will have a friend for life. Secondly, sending a registered envelope ensures that you can check to see if the letter was delivered and who signed for it.

The Amiga's shareware authors are an inventive bunch, creating tools that you would more than likely have to pay for on other platforms and they deserve our support. Check over the software lurking on your hard drive and see if there are a few utilities you couldn't do without, and that some guy has programmed in the hope of getting some sort of reward. Either throw those tools away or send the guy his postcard, 20DM or a bar of chocolate.



If you see a requester like this on a program you use regularly, perhaps you ought to cough up

The SASG

One of the reasons people give for not registering shareware is the fact that it is too much trouble to get foreign currency to pay people with, but the SASG (Standardised Amiga Shareware Group) have had a good idea. SASG is a consortium of shareware authors who have grouped together to work on a unified approach to shareware, via the look of the interface, the manner of registration and the promotion of the other members of SASG's work.

Members of SASG include Stefan Stuntz, whose MUI and MFR are superb additions to anyone's Workbench, and Martin Huttenholer who created the brilliant set of icons known as Magic Workbench. Part of the added benefits of dealing with SASG products is the fact that there are registration points in several different countries, including England, so people don't have to send foreign currency overseas. I can only hope that either SASG gains a lot of new members, or similar schemes spring up elsewhere.



On the CoverDisk last month, MUI is an excellent example of an SASG product

Getting your wares

As there are a wide number of styles of freely distributable software, I feel duty bound to inform you of some of the various types doing the rounds:

Public Domain: The only public domain software that exists is software that has no copyright notice and which contains the source code necessary to modify the program in any way the user chooses. Some shareware titles also come with source code, but the original programs shouldn't be modified using the code.

Freeware: The only type of FD software you won't have to pay anything extra for. The people who write freeware titles don't expect any money, gifts or postcards from you, but I'm pretty sure they wouldn't turn anything down that you actually sent them if you found their program useful.

Shareware: Shareware is what the majority of FD software actually is. The author expects you, if you use their program regularly, to contribute to their coffers. Some shareware is actually:

Crippleware: Shareware that is in some way disabled until the shareware fee has been paid. The most common ways of crippling shareware include disabling Load/Save functions, disabling other essential features, only allowing the use of a limited area (for a graphics package or spreadsheet) or having annoying requesters that pop up every time you perform an operation.

Charityware: The author expects you to make a contribution to a charity of your choice (to a certain value) and once she has proof of this, you will usually need to send her the receipt, then you will receive an uncrippled version or the thanks of the author.

Giftware: The author would rather receive something more personal than just cash. Usual requests are for chocolate or programming jobs in the States, but I registered MultiCX by sending the author some maps of my local area.

Postcardware: All that is required to register Postcardware is simply a postcard from your home town saying how much you like the program and how much you want to register it.

Beerware, Chocolateware, Cigaretteware, Joltware: I'm sure you can work out for yourselves what the author is actually asking for, with the possible exception of the last example. Jolt is actually an American Cola drink which is held in high esteem by a lot of programmers because it contains extra caffeine and sugar. Ideal for those late night programming sessions.

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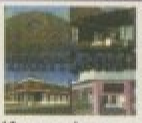
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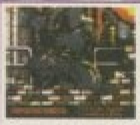

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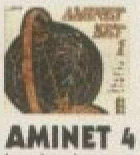

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Amiga 3D Part 6



Smoke on the water

Using the same techniques applied to making candle flames, Stevie Kennedy looks at how LightWave can reproduce everything from smoke to foaming water

Creating fire effects, as we saw a couple of months ago, is one of the trickier jobs a modeller will face. Apart from the difficulty of reproducing the organic appearance of the flame, we have to sit through extended rendering times while we test the various texture settings to find one we're happy with.

Once you've gone through all the hassle, you might be thinking that it was a lot of trouble for not a lot of result. There are only so many animations where flames will be a factor, after all, but with a little extra thought and application the flames texture can be adapted to fit a great many situations.

For this example, we'll look at a single scene which includes a frigate cutting its way through the high seas. In its progress it will, of course, throw up a wake and as it's an old WWII ship it'll certainly be making a bit of smoke. We now have two effects to create which at first don't seem all that closely related to bright yellow candle flames.

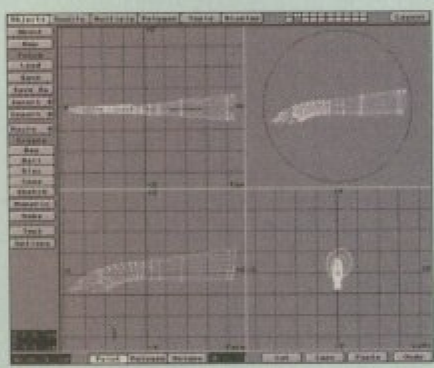
The first job is to decide where the effects will be placed and what general shape and size they will be. In this case – one with which most of us will be familiar – it's an easy job to visualise both the wake and the funnel smoke. You're still going to have to think about size, though.

BRUSHMAPS

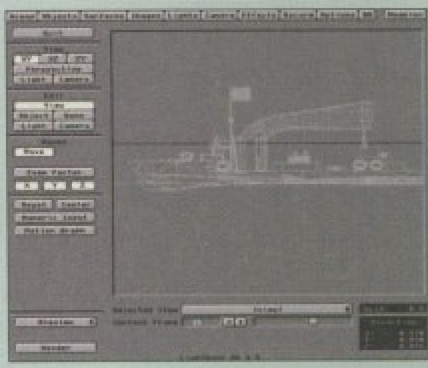
As we saw in the candle flame example, the object itself is merely a frame into which we fit our brushmaps. The surface and edges of the model will be made 100 per cent transparent, except where the brushmap causes smoke or wake effects. As we'll also use a strict texture falloff (to avoid seeing ugly solid edges) the object has to be larger than the effect itself.

A ship of 75m length would therefore need a bow wake of about 100m minimum to allow for water sloshing down the ship's side, and we'll need a second 50m wake at the stern to reproduce the churning of the propellers. Similarly, the funnel smoke object will have to extend a fair way beyond the last visible puff of smoke because we'll want this to blend against the background as finely as possible.

We need to create a wake which is roughly the same shape as the ship but a



The smoke object needn't be a work of art. It's just a frame for our brushmaps, so a rough size and shape is fine



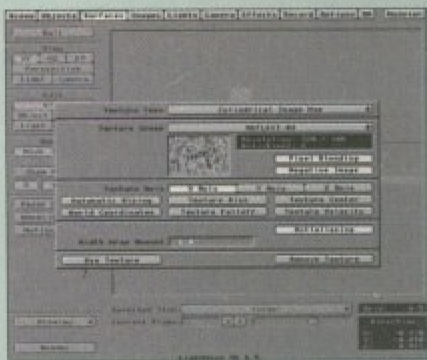
Examine pictures of ships steaming at speed to ensure the smoke cloud is about the right size in proportion to the ship

lot longer, and we can use the same object scaled down slightly to make the stern wake. The smoke is a bit more of a problem as we have two funnels in this example and the effect has to travel upwards from the funnel and backwards with the wind.

Let's take the smoke first. Colour is easy. Just choose a mucky oily brown (R77, G50, B33 works for me) and apply it. To create the smoke itself I used a reflection map from Surface Pro, but most vaporous maps would be fine so long as they tile together without too much of a seam. Remember – the smoke will be visible for quite a while and we don't want a regular gap appearing when the brushmap passes through the object.

The ship's speed will be about 40km per hour, which equates to something between 20 and 25 knots. In LightWave terms, this is about 11m per second, so we have a basic speed for the texture velocity settings. The Y axis speed, applied to make the smoke appear to come up out of the funnel, should be 2m per second or so.

Texture size will be roughly two thirds of the smoke object down its length and four fifths of the breadth and depth so that the smoke mostly fills the object (which is an invisible frame, remember?) on cross-section, but peters out well before we



Use a cylindrical map for the smoke so we can force it to swirl around in a circular motion as it drifts back across the ship

reach the end. For the transparency, I used the same 100 per cent settings for the object as with the flame we did, but applied a different brushmap for the transparency mapping (this is where a 24-bit package with a decent airbrush comes in very handy). Now we have one map for colour and one for transparency, and the interaction of the two (something you can't predict) should look more randomised than using just one brushmap.

Now set the texture centre right, where the smoke is thickest at the mouth of the foremost funnel. If you're not sure how to do this accurately, just move the smoke object's pivot point to the right spot and read the grid reference shown in the bottom right-hand corner of the Layout screen.

Once you have set the texture centre properly, the rest is a lot easier. Look at the smoke object itself and measure its exact dimensions. On a 75m ship it should be around 50m in length, and about 15m in diameter at its rear end where the smoke is dissipating. This size would give us a texture falloff of 2.1 in X (length), 15 in Z, and 15 in Y.

As these set the percentage falloff, the smoke should be invisible once it reaches about 47.6m in X (comfortably inside the object), and should taper off as the smoke object widens to more than 13.2m (100 per cent transparency in Z and Y beyond 6.6m either side of the pivot point).



The finished animation benefits hugely from these two additions, though a static frame can't really show the effect

Works of art

With a bit of thought, an understanding of textures, and the careful measurement of your objects, effects such as smoke and white water needn't be a nightmare to reproduce using basic LightWave techniques. You might never achieve the degree of realism a professional studio could with its banks of artists and gigabytes of digitised footage of water, smoke, explosions, and the rest, but your efforts will be a lot more lifelike than before, and you have enough scope with this technique to produce some startling results.

Form filling

Paul Overaa explains how to write an ARexx key-press parsing routine



One use of the CursorWrite() function outlined last month is for displaying field names in programs that collect their data via an on-screen form. Of course, to develop these types of form-fill applications you also need to be able to collect and display keypress data at the appropriate position on the screen.

The CursorRead() function I've written for this month's instalment does exactly that, and at first sight it is perhaps a little more complicated than you might expect. The reason is that to produce any useful form-fill application it's necessary to control what a user can, and cannot, type very carefully.

Input fields, for example, need to have their length controlled so that users don't go overwriting areas of the display assigned for other uses. Similarly, some key presses (such as function keys) may need to be ignored while others, like backspace, have to be recognised so that special actions can be taken. In other words, it is necessary to parse the input stream so that only those keypresses deemed to be useful are actually used.

This, of course, means that a raw console window must be used and to read the keyboard I'll be using the ARexx Readch() function. For the most part, Amiga keyboard keys labelled with ANSI standard characters will be translated into their ASCII character equivalent by the console device via the current keymap data. With other keys an escape sequence will be generated and it's important to understand that the number of characters generated does vary from key to key.

For this month's example script the ASCII characters I've chosen to support are shown in listing 1. The parsing strategy itself involves a loop whose exit condition is either the reception of a carriage return character or the reception of more characters than specified when the routine is called.

I've also chosen to look for function and other special keys (Home, End and so on) so that the various characters generated by these keys can be safely ignored. Listing 2 shows a pseudocode representation of the routine's structure and if you bear this layout in mind when you look at the CoverDisk example code, it shouldn't be too difficult to appreciate how the routine works. Displaying ordinary characters is easy. We increment a character count, print the character to the screen using Writech(), and add the character to the input string being collected. Having done that we read another character and continue the loop. Backspace handling involves removing the last displayed character and decreasing the character count.

It is a little more awkward for two reasons. Firstly, printing a backspace only moves the cursor back one position – it doesn't actually remove the character passed over, so we need to explicitly do this as a separate operation. I've opted for printing a backspace, writing a '.' period character, and then backspacing again to position the cursor at the correct location for a new character.

The console device does, incidentally, support a delete character control sequence, but since using this would physically shift up other characters on that particular display line (causing any other field names on the same line to move) this option, for our current purposes, is not suitable.

The second thing to watch for is that we must only ever do backspace operations while there are still characters left in the input string to delete. You can see how I do this by looking at listing 3 which shows the inner select/when statements used in the parser.

ASCII Code (Hex)	Action To Be Taken
0-7	Ignore these non-printing characters
8	Do a backspace and remove last character from input string
9-19	Ignore these non-printing characters
20-7D	Print normally adding characters to input string
7E	(~) Ignore
7F	(delete) ignore

Listing I: Operations to be performed by the keypress parser

```
set cursor to required position
do while input character is not a carriage return
          if characters received count < allowed character count
          do
                    Select
                              When char=function or special key   ignore all associated characters
                              When char =backspace   remove last character
                              When char is printable   print and add to input string
                              Otherwise   ignore character
                    end
          end
          else force an exit from parsing routine
end
```

Listing II: Skeleton framework of the keypress routine

```
select

          when x$==CSI then
                    do
                       call Readch(window,1)
                       x$=Readch(window,1)
                    end

          when x$==BACKSPACE & i>1 then
                    do
                       i=i-1
                       Writech(window,x$||'.'||x$)
                       input_string$=Left(input_string$,Length(input_string$)-1)
                       x$=Readch(window,1)
                    end

          when x$>=SPACE & x$<APPROX then
                    do
                       i=i+1
                       Writech(window,x$)
                       input_string$=input_string$||x$
                       x$=Readch(window,1)

                    end
          otherwise x$=Readch(window,1)
end
```

Listing III: The inner select/when statements of the parsing routine

The example itself

The best way to appreciate this month's discussion is to run the example program for yourself and experiment. Open a shell window and, for convenience, copy the example script to the ram disk and make ram: the current directory (by typing... cd ram:). Then run the script by typing... rx september_example and enter some data into the screen form that appears.

At the moment nothing much happens to the data you enter, it just gets redisplayed at the shell window which started the program – just to convince you that the entered fields are being properly collected by the CursorRead() routine.

You'll notice that the example has quite a lot of preliminary setting up code for writing field names, showing the input field sizes using period characters, and collecting the various replies. Each field is essentially treated as a separate entity, but obviously this approach leaves a little to be desired as forms become larger.

The next step is to become a little more organised in the way we display and collect field information and next month will in fact see me adding a rather crafty twist to the ideas I've been discussing over the last couple of issues!

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The Internet: Where to now?

Phil South assesses where the Internet will take us if legislation allows



The Internet has become exactly the kind of buzzword I was hoping it wouldn't, with all kinds of style victims with Apple Macs rampaging around the network posing as Cyber Warriors, while users who could get something out of it are being put off by the associations the Net is starting to pick up in the public imagination.

It's full of porn. It's full of weird people. It's full of reams of text about how to make bombs, drugs, chemical weapons and plastic replicas of Delia Smith's underwear. It's an unsavoury place full of people who want to corrupt our children, sell us things we don't need, and push their opinions on us while eavesdropping on what we look at so they know what sort of person we are.

Well okay, a lot of those impressions have some basis in fact. These problems do exist on the Internet, but explaining why they exist and how little a threat to the average person on the street they are is a difficult task. The Internet is a place where all of human life and experience is gathered, a sort of extension of the real world, or 'the Outernet' as some wags have it.

You find a lot of disturbing things in life, and yes, people have diverse and sometimes downright horrible tastes, politics and points of view, but to badly quote some deep thinker who's name escapes me: "I detest your point of view, but I defend to the death your right to hold it." If nobody gets to express themselves fully on the Internet, then what is the point of it any more? If the Government legislates against free speech on the Internet, then what use is our Government?

ANYTHING AND EVERYTHING

Where we are on the Internet is a point in history where almost anything you want to know or want to talk about is there for all to see. What we do next, who we vote for and what their plans are for the Internet are crucial to the future of our country, our culture, and our rights as humans and residents of the United Kingdom and of the Internet.

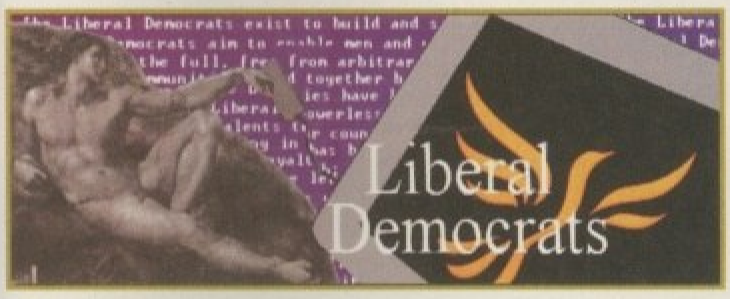
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web pages: http://www.poptel.org.uk/Labour-Party/

Conservative Party
Er... they don't have e-mail. Funny that.



Can the Liberal Democrats help you in your fight for free speech on the Internet? E-mail them now



Or may be the Labour Party can help you on the Internet debate? As for the conservatives...

Net watch

I'm sure you would like to know about those nice sites on the Internet I've been visiting over the last few weeks? Sure you do.

Bravo – that go-ahead satellite channel, you know the one with the fancy ads on the London Underground and in all the magazines? Yup, that's them. Well they're here on the Web too. God save us. Great site though, and really nicely done. Lots of info and pics from all the shows they are showing at the moment, which is almost every cult TV show ever made. I wish I was allowed to have a satellite dish, but my other half says I can't because it's expensive, it's full of trash and it rots my mind. But she let me have an Internet account?!? Go figure.

http://www.uaep.co.uk/bravo.html

Dr Fun – another cartoon strip and a damn fine one too. Best get Netboy and this one and then you'll never have to buy a comic ever again. Well perhaps once in a while, but no spandex covered superheroes, okay?

http://sunsite.unc.edu/Dave/drfun.html

Cyberview 3D Document Maker – very technical, but interesting.

http://www.geom.umn.edu/apps/cyberview3d/about.html

The VRML Repository – Virtual Reality Mark-up Language, the 3D version of HTML. A 3D Web interface being developed by a private company and Silicon Graphics. Let's hope Escom make it snappy with the new RISC-based Amigas, and then we'll be flying through real Cyberspace... What is this sudden thing about 3D, hmm?

http://www.sdsc.edu/vrml

WaxWeb – the on-line version of a cult video called WAX. It's hard to describe, but the web site features some darn good stuff. You may need access to some kind of PC or Mac to view the films though. Sorry. You'll have to wait until the slated Escom Amiga/PC clone comes out. Still, look on the bright side, at least it'll be out before Windows '95 (or Amiga '85 as we like to call it!)

http://bug.village.virginia.edu/

The Ed Wood Home Page – see the world's worst movies, well buy them from this company anyway. Or at least take down the names of the films and go to your local store and buy them. This is a part 'how to' and 'how not to' do web site. Check it out and you'll see what I mean. Mondo graphics, mondo slow, mondo chic.

http://www.futurenet.co.uk/edwood/CONTENTS.html

Making Movies – a film production company, making films in both London and Los Angeles, with details of the films it has in production, plus access by e-mail to a company that might read your screenplay.

http://www.makingmovies.com/tallent/index.html

The ARPA Warbreaker Site – I'm not sure what this is, I got it by accident while looking for something else, but it looks real scary. ARPAnet was what the Internet used to be called, ironically enough.

http://www.wb.com/

I'M B1FF!!! – this is just plain weird. Mpeg movies? Weird Mpeg movies? You'd have to be sick in the brain to download most of this stuff, but hey! You wouldn't be a Net Potato if you didn't, eh?

http://www.best.com/~johnp/film.html

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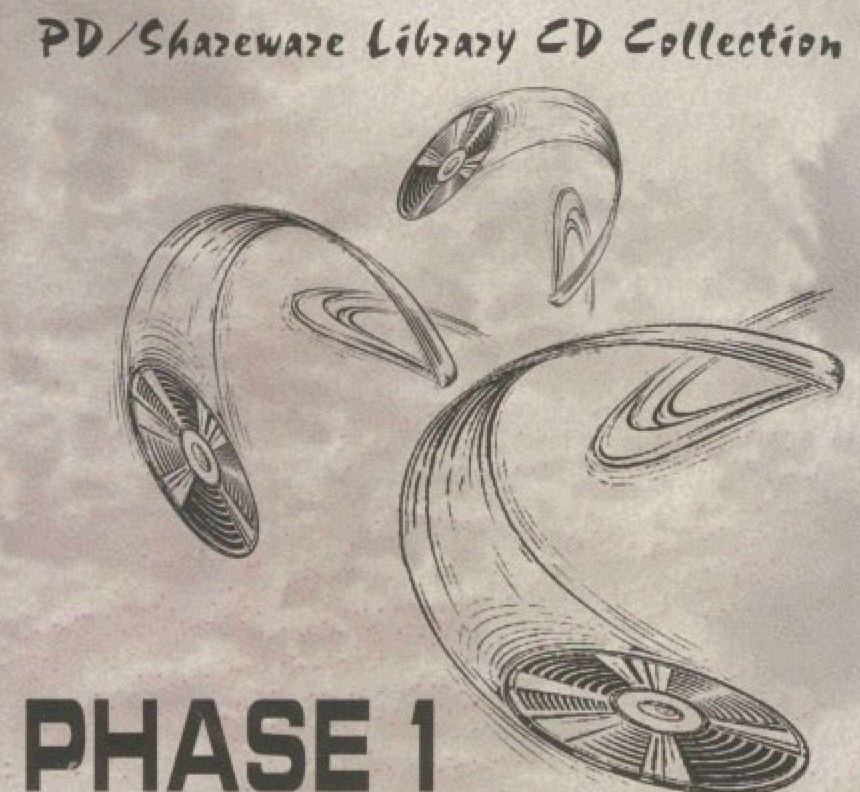
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Typographical tales

Frank Nord has a look at the different font formats available on the Amiga

Back in the bad old days of Workbench 1.3 and ProPage 1.3, the situation was simple. You had bitmapped fonts for Workbench and Compugraphic fonts for ProPage. PageStream 1.8 was around, but did anyone actually use it? Probably not. It had its own font format called dmf, but even with this added format there wasn't much confusion. Compare that situation to today's proliferation of file formats; Compugraphic, Workbench Compugraphic, Postscript type 1, Postscript type 3, Nimbus Q, TrueType, not to mention the good old bitmap and dmf formats. Postscript fonts can be even further subdivided into formats for the Apple Macintosh, those for Windows and those for DOS.

There still isn't that much confusion over what format typeface to use for which program. However, the current system is somewhat inefficient with people having to have several copies of a typeface in different formats on their machine for use in different programs. Perhaps one of the initiatives undertaken by Escom with a new release of Workbench should be the support systemwide of Postscript type 1 fonts, similar to the system employed by NeXTStep and the NeXT machines which actually go one stage further and work systemwide in Postscript for the display as well as text.

Another alternative would be to go the Windows route and offer support for TrueType format fonts, but we don't really want to be seen to emulate Windoze now, do we?

Sometimes it's hard to find the font you want in the format you need, but every DTP diva should really have a copy of TypeSmith to hand. In its current incarnation it can handle almost all the formats covered in this article with the exception of the NimbusQ format. But as Final Writer – the main program to use NimbusQ – supports postscript fonts as well, it's not too much of a problem.

If you can't find the font you want in the format you need and you don't have a copy of TypeSmith to hand, you could do worse than ringing EMC on 01255 431389. I know I've plugged them before, but they really do provide the best service for DTP users in this country.



This is the highly exciting interface for Intellifont



PageStream progress

By the time you read this, the final chapter in the PageStream 3.0x saga should be over. Softlogik are releasing version 3.0h as I write and this will be the penultimate release before moving to version 3.1. Some of the implemented features in 3.0h will include:

- Speeded up text: The ability to leave graphics and text external to a file
- Implemented page numbering
- Implemented Auto Hyphenation
- Fixed most known insertion point (text cursor) related problems
- Fixed auto kerning of PostScript fonts
- Fixed the distorted aspect ratio problem with bitmap pictures
- Fixed the distorted aspect ratio problem with landscape printing
- Fixed Cut, Copy, Paste, Erase and Undo toolbar buttons
- Fixed copying of objects between documents which also copied text style tags
- Fixed all send to editor scripts to work properly when quitting an editor and not just when closing an editor's window,

Let's hope the development continues apace with this Amiga version and that SoftLogik don't get carried away with the development of a PC or Mac version to our detriment. Some of the really important features that are still lacking in PageStream 3 include proper EPS export and separations. We have certainly been patient, waiting for a usable version of PageStream, and I hope this patience will soon be paid off.

Font formats

Postscript Type 1: The standard for typography in the publishing industry, the postscript font format was developed by Adobe Systems way back. A scalable font format, it supports additional files for kerning information and screen representations of fonts.

Postscript Type 3: Postscript type 1 fonts are great but they don't cope well with very complex shapes. The Type 3 variant was designed to deal with halftones and shading, but most programs will only output type 3 fonts to a postscript printer, unlike type 1s.

TrueType: TrueType is probably the most common format in use at the moment thanks to its adoption into Windows. TrueType provides a scalable technology similar to the Compugraphic format, but is best suited to screen use.

Compugraphic: AGFA developed the Compugraphic standard originally for their typesetting machines, but the format has become popular on the Amiga thanks primarily to Gold Disk's Professional Page program, followed by Commodore's licensing of the technology for use in Workbench. If you have ProPage installed on a machine with a Workbench revision higher than 2.0, you will be able to convert ProPage's version of the Compugraphic format into a format suitable for use with Workbench.

Simply load up Fountain (or Intellifont if you are using Workbench 3 or higher), and select your CGFont: directory in the source window. Fountain will then convert the format automatically to WB CG and you will then be able to use the fonts for Workbench, Wordworth and any other package that supports Workbench Compugraphic fonts.

NimbusQ: NimbusQ is another mutation of the Postscript type 1 standard, but is a lot faster for screen display. The only programs to support NimbusQ fonts on the Amiga so far are the Softwood range of Word Processors including Final Copy and Final Writer

Who goes there? Part 1

Phil South looks at the first part of a useful screen routine

This month it's the turn of Graham Moody, another regular contributor to the column, and this is a program which finds out the specification of a screen. Over to you Graham.

"Here is a routine that will give you information on the current screen, from the screen number to the amount of memory the screen is using. There are two modes of operation: _SCREEN_INFO[1] is the silent mode, where by the information is returned from the procedure in a string:

```
_SCREENNUMBER=Val(Left$(I$,1))
X=Val(Mid$(I$,3,4))
Y=Val(Mid$(I$,8,4))
WIDTH=Val(Mid$(I$,13,4))
HEIGHT=Val(Mid$(I$,18,4))
NUMBEROFCOLOURS=Val(Mid$(I$,23,4))
NUMBEROFBITPLANES=Val(Mid$(I$,28,1))
AMOUNTOFSCREENMEMORY=Val(Mid$(I$,30,7))
```

this is how we get the information, that is returned form the procedure:

```
_SCREEN_INFO[0] is non silent mode where by the information is displayed directly on screen."
```

Okay, here's the first part of the code. Don't try to run this! It is not complete, although if you're really clever you might be able to figure out where it's going and beat us to it. Otherwise, wait until next time and fill in the rest of the code before trying it out. Okay, here we go with part 1.

First the usual starting type code:

```
Screen Close Screen
F$=Fsel$(Dir$,"","Load any Iff Picture","to test screen info")
If F$=""
        Edit
```

which loads the screen you are going to test and if it doesn't load it will boing you back to the editor.

```
Else
        Load Iff F$,Rnd(7)
```

This loads the iff picture to a random screen number. Close the IF/ELSE/ENDIF and we're onto the next bit:

```
End If
Wait Vbl
```

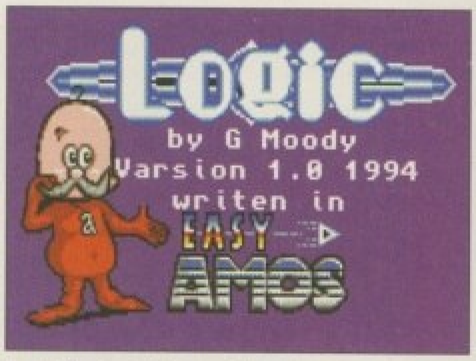
This of course waits for the next vertical blank, and then we are into the first PROC.

```
_SCREEN_INFO[1]
I$=Param$
```

This returns the information from procedure as a string called I$, which of course we can process later. The other form of the PROC is next:

```
_SCREENNUMBER=Val(Left$(I$,1))
X=Val(Mid$(I$,3,4))
Y=Val(Mid$(I$,8,4))
WIDTH=Val(Mid$(I$,13,4))
HEIGHT=Val(Mid$(I$,18,4))
NUMBEROFCOLOURS=Val(Mid$(I$,23,4))
NUMBEROFBITPLANES=Val(Mid$(I$,28,1))
AMOUNTOFSCREENMEMORY=Val(Mid$(I$,30,7))
Default
```

and after gathering the info we return to a default status. Now we can PRINT some of the info we've gleaned to the screen:



Find out the specification of a screen with Logic

```
Print "The screen number ="+Str$(_SCREENNUMBER)
```

This prints the screen number, followed by similar statements to print x coordinate, y coordinate, screen width, screen height, maximum number of colours, number of bit planes in use, and finally the amount of screen memory in use, with the following stements:

```
Print "X ="+Str$(X)s
Print "Y ="+Str$(Y)
Print "The screen width ="+Str$(WIDTH)
Print "The screen height ="+Str$(HEIGHT)
Print "The total number of colours are"+Str$(NUMBEROFCOLOURS)
Print "The number of bit-planes is"+Str$(NUMBEROFBITPLANES)
Print "The memory requirment ="+Str$(AMOUNTOFSCREENMEMORY)
```

then we locate the cursor and print a prompt to tell the user to press a mouse button:

```
Locate ,15 : Centre "press mouse key."
Repeat : Until Mouse Key<>0
```

Then we close current screen:

```
Screen Close Screen
```

and then we start again with the requester to load another picture (or even the same picture!):

```
F$=Fsel$(Dir$,"","Load another Iff Picture","to test screen info")Wait 15
```

This waits for 15/50s of a second. Then we test for the picture load again and go back to the editor if it didn't, as before. If it does load we load it into a random screen:

```
If F$=""
   Edit
Else
   Load Iff F$,Rnd(7)
End If
Wait 15
```

Now we activate the PROC again:

```
_SCREEN_INFO[0]
I$=Param$
Default
Direct
```

Now we get to the point where we define the procedures:

```
Procedure _SCREEN_INFO[SILENT]
        GAP$="                                       "
```

Note: The gap between the quotes is 39 spaces by my reckoning. Next we set the address of screen table:

```
AD=Screen Base
_SCREEN_NUMBER=Deek(Screen Base+188)
```

until we hit the current screen number. Now we look for the screen's x and y co-ordinates:

```
INFO$=Str$(_SCREEN_NUMBER) :
I$=Right$(INFO$,1)+" "
XDISPLAY=Deek(Screen Base+82)
INFO1$=Str$(XDISPLAY)
I$=I$+Right$(INFO1$,Len(INFO1$)-1)+Left$(GAP$,5-(Len(INFO1$)-1))
YDISPLAY=Deek(Screen Base+196)
INFO2$=Str$(YDISPLAY)
I$=I$+Right$(INFO2$,Len(INFO2$)-1)+Left$(GAP$,5-(Len(INFO2$)-1))
_SCREEN_WIDTH=Deek(Screen Base+76)
```

and then the width and the height of the screen:

```
INFO3$=Str$(_SCREEN_WIDTH)
I$=I$+Right$(INFO3$,Len(INFO3$)-1)+Left$(GAP$,5-(Len(INFO3$)-1))
_SCREEN_HEIGHT=Deek(Screen Base+78)
INFO4$=Str$(_SCREEN_HEIGHT)
I$=I$+Right$(INFO4$,Len(INFO4$)-1)+Left$(GAP$,5-(Len(INFO4$)-1))
```

Then the max amount of colours, number of planes available and screen memory requirement:

```
_MAXIUM_NUMBER_OF_COLOURS=Deek(Screen Base+96)
INFO5$=Str$(_MAXIUM_NUMBER_OF_COLOURS)
I$=I$+Right$(INFO5$,Len(INFO5$)-1)+Left$(GAP$,5-(Len(INFO5$)-1))
NOPA=Deek(Screen Base+80)
INFO6$=Str$(NOPA)
I$=I$+Right$(INFO6$,Len(INFO6$)-1)+Left$(GAP$,2-(Len(INFO6$)-1))
TSM=(Deek(Screen Base+76)*Deek(Screen Base+78)*Deek(Screen Base+80))/8
INFO7$=Str$(TSM)
I$=I$+Right$(INFO7$,Len(INFO7$)-1)+Left$(GAP$,7-(Len(INFO7$)-1))
If SILENT=0
        If _SCREEN_NUMBER=7
        ISN=6
Else
        ISN=7
End If
```

● Next month we'll conclude the process and round it all up.



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The Amiga's race against time

Paul Overaa explains why the Amiga badly needs standardised system supported, 16-bit sound arrangements

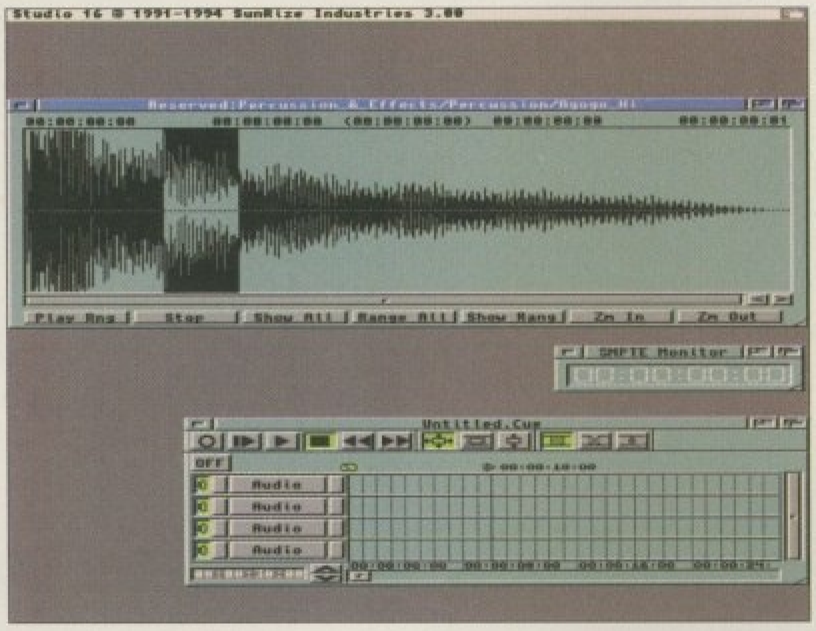
The Amiga's built-in 8-bit sampled sound hardware once helped the machine stand head and shoulders above the competition. Unfortunately, technology doesn't stand still and what was first seen as one of the Amiga's strengths, digitised 8-bit sound, has now become a weakness (if not an outright liability).

The reason is that on other platforms the emphasis in most sound-oriented areas is moving rapidly from 8-bit to 16-bit sound. In fact, you only need look at the PC marketplace to see what is happening. Everyday 'home' PC users are flocking to 16-bit sound cards like no tomorrow, with most taking the opportunity to throw on a CD-ROM drive at the same time.

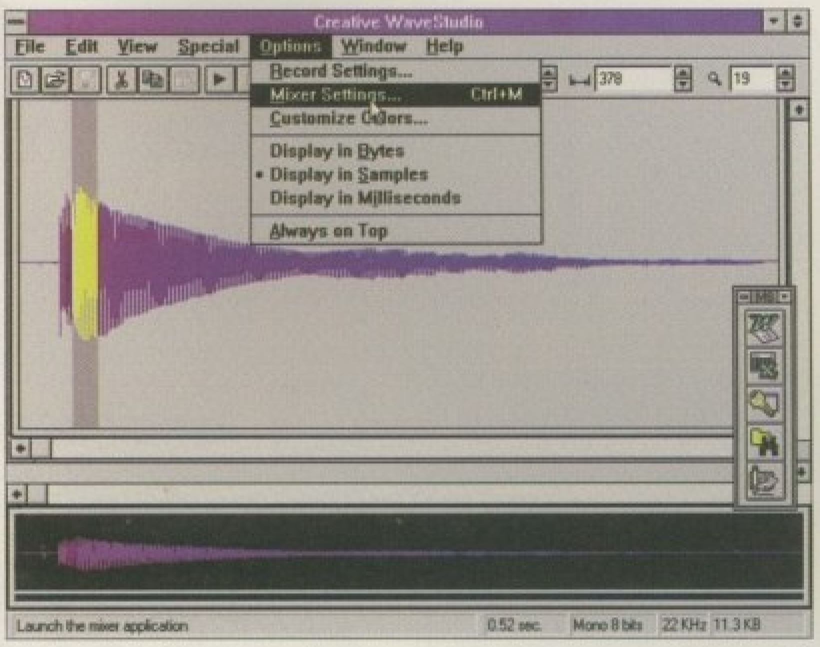
Why is this happening much quicker on the PC than on the Amiga? Well, one main reason is cost. You can, for example, now get a 16-bit soundcard and software, and a CD-ROM drive for under £200. On the Amiga the situation is very different – decent 16-bit Amiga sound cards are still far too expensive. No matter how brilliant the SunRize AD516 may be, no everyday Amiga user is going to go out and buy one at current prices.

The Toccata board is cheaper, but although the software offers some useful VLabs package links it has little in the way of what you might call more generalised 16-bit Amiga software sound support. Blue Ribbon's One Stop Music Shop is also extremely good but again, price-wise, it is beyond the reach of most Amiga users.

So what does all this mean? Well, for end users it's simple: Even just talking hardware – to obtain an up-and-running 16-bit Amiga multimedia system it costs roughly two or three times as much for an Amiga owner as it does a PC user! Incidentally, despite their low prices, almost all PC sound card packages still come bundled with a lot of support software.



SunRize 16-bit sound system – great, but far too expensive for the average user



Creative Lab's software is good but it wouldn't sell to PC users in the quantity that it does were it not for the availability of cheap 16-bit sound cards

Creative Lab's Sound Blaster 16 package, for example, provides a sample editor which lets you sample at rates up to 44,100Hz (CD quality). There are 'Ensemble' programs which provide sound sample, audio CD and Midi file playing facilities, mixer programs, a multimedia authoring package, Monologue for Windows which allows you to add speech facilities to other Windows applications, as well as various other programs.

It is these types of hardware and software bargains that are setting the multimedia/music rules nowadays and to compete the Amiga has at least got to be in the race. In short it badly needs cheap, yet good, 16-bit sound hardware, along with more system-wide (i.e. Escom standardised) operating system support. Escom, of course, are 100 per cent aware of what's been happening in the PC world and there are already strong rumours that an affordable 16-bit DSP (Digital Sound Processing) card is high on their Amiga agenda. This, of course, is something which, for musicians and multimedia users, is very good news indeed!



More than a drop in the ocean

Those of you who read this column regularly may remember in the past that I've mentioned an Amiga disk-based magazine produced by Björn Lynne in Norway, called AM/FM (the 'Amiga Musicians Freeware Magazine'). Unfortunately, publication of AM/FM, because of the author's other commitments, has now ceased (disk issue 19 was the last), but the good news is that well-known Amiga music duo Kevan and Gareth Craft have decided to take over the helm.

The magazine is now called the 'MIDICraft Magazine' and most of the previous AM/FM distributors both here in the UK and overseas are stocking it along with MIDICraft Sample disks, and so on.

The reason I'm mentioning this is that Kevan and Gareth really do deserve credit for the effort they put into their Amiga-oriented music work. As well as being the authors of countless tracker module songs, PD utility and sample disks (and now publishers of MIDICraft), they've even found time to produce an audio CD called 'A Drop in the Ocean'.

This contains 12 original tracks and it's not only worth a listen because the songs themselves are quite good, but because it will show you exactly what it is possible to do with Amiga sequencing software – all tracks on the album were in fact sequenced using Amigas running Music X.

A Drop in the Ocean costs £10.99 and is available from Seasoft Computing – Tel: 01903 850378. A public domain support disk is also available containing song lyrics in various forms, docs and pictures, and even an OctaMED version of one of the instrumental tracks on the CD!


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VIDEO

Preaching to the converted?

Gary Whiteley explains why 3D object converters can save your day

Okay, here's the problem. You've found a great 3D object out there on the 'Net which should be ideal for that tight-deadline animation video you're doing for a prestige client, but it's in a format neither you nor your 3D software can comprehend. You're desperate to complete the project on time, so what do you do?

Well, you could always load the object into the software it was designed on, and do your animation there. Nice idea, but if it's a Wavefront, Alias or Softimage object then you'd better have a big wedge of cash ready to buy the requisite hardware and software to get your animation up and running. You'll also need some time to familiarise yourself with the system and get up to speed, so this option is almost completely impractical.

Alternatively, you could farm the whole project out to a fully-equipped 3D animation house, if the budget is big enough, though you might still need to tweak the object in the animation house's 3D software to make it look how you want.

Not very viable suggestions so far, you're probably murmuring. And you'd be right. What we need is another approach, a way of changing the 'alien' object into something your 3D software can recognise and load. This is where 3D object converters come in.

3D object converters are basically translators which read an object in a given format, change its code to that of the desired output format and save it as a new object, ready to be loaded into your 3D program. There are two main commercial programs on the Amiga for object conversion – Interchange Plus from Syndesis Corporation and Pixel3D Pro from Axiom Software, and both have their own individual benefits.

For instance, while Interchange Plus (ICP) does the better job of converting objects, Pixel3D also converts 2D bitmap images into extruded 3D objects with bevels and other niceties to enable the construction of, say, 3D logos from scanned or painted artwork. Sadly, there are no truly flexible PD converters that I know of, though there are some with very limited conversion abilities.

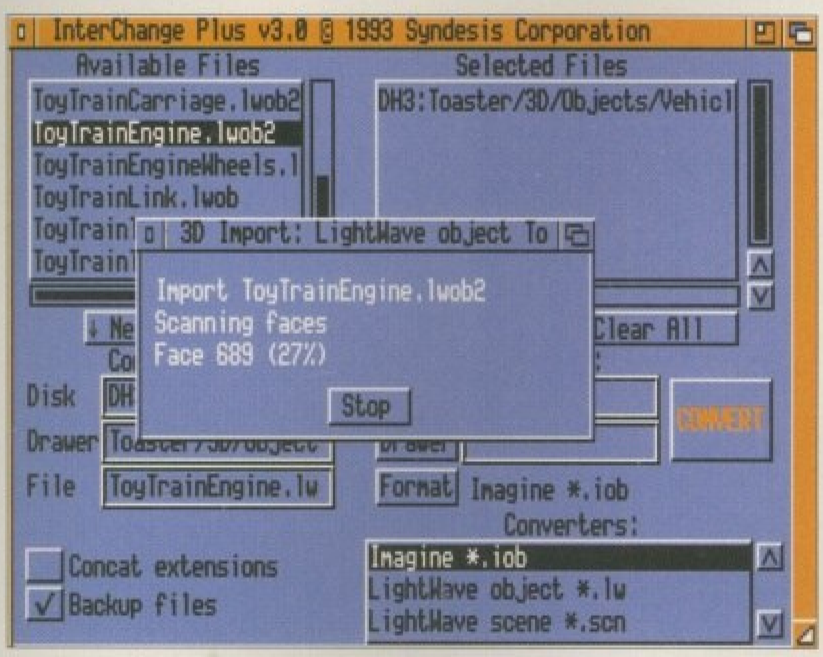
Now, the smart 3D folks among you will already know that 3D programs such as LightWave, Real3D and Imagine include facilities for importing some formats of 3D objects directly, and also for turning 2D bitmaps into 3D objects, so why the need for extra conversion utilities? Well, if you've ever tried loading Imagine objects into LightWave, or LightWave objects into Imagine, then you'll have realised that both are currently impossible because the built-in loaders just don't cover these areas.

However, if you want to import AutoCAD DXF files then all the big three Amiga 3D programs can load them (though not always without problems, since, like MIDI, DXF isn't really the standard format it would like to be). Recent additions to Real3D mean it is no longer restricted to loading Sculpt format objects as its only external input, but for most object formats an external converter is still required for Real3D and Imagine. So you can see that whether or not you use an object conversion program really depends upon your needs and the capabilities of your 3D software.

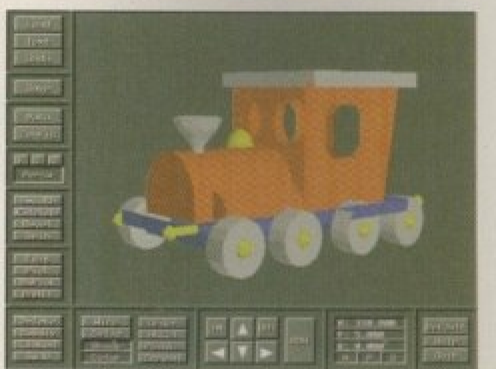
One of the main problems when converting objects is that it isn't always possible to convert some of the object's attributes (for example surface and texture maps) into information which can be used when the new object is loaded into its 3D program. There's no easy way round this, because most 3D programs use different methods of surface and texture mapping, which means there will be times when you'll need to attach new texture attributes to the converted object before they'll look the way you want them to.

But this is a small price to pay compared with building the whole object from scratch, especially when a program like ICP can read all the colour, specularity, reflection and refraction data from the incoming object and translate it as faithfully as possible into settings the target 3D software can understand and utilise.

If you were to ask me to recommend which converter software to buy (and if you're serious about 3D you'll certainly need some) I'd have to say Interchange Plus because it offers the widest range of conversion facilities and the most consistent output quality. On the other hand, Pixel3D has been appearing on magazine cover disks and it does make turning bitmaps into objects quite easy. However, it doesn't seem to be able to get object conversion completely right 100 per cent of the time, resulting in some fiddly object editing to smooth out any shortcomings which may occur.



It might look pretty dull, but Interchange Plus is the best object conversion software on the Amiga



Behind its smart interface Pixel 3D Pro is a capable, if not always reliable, object converter which can also convert 2D images into 3D objects



Common 3D object formats

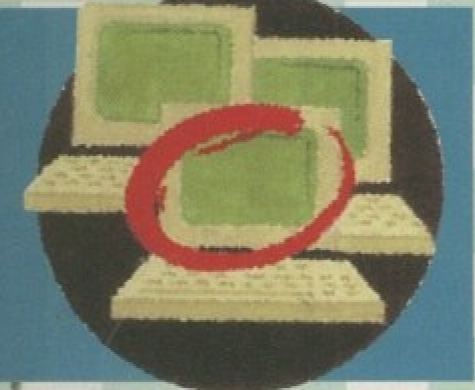
3DS (.3ds)	Objects produced by AutoDesk's 3D Studio software.
DXF (.DXF)	Popular AutoCAD object format, producing ASCII files which may require large amounts of Amiga memory to process.
Imagine (.iob)	Objects produced by Impulse's Imagine.
LightWave (.lw or .lwob)	Objects from NewTek's LightWave Modeller 3D program.
Real3D	B-Spline or triangular mesh objects from RealSoft's Read3D software.
Sculpt (.scene)	Byte-by-Byte's now obsolete (at least on the Amiga) object format.
TurboSilver (.ts or .silver)	Objects produced by Impulse's precursors to Imagine.
Videoscape 3D (.geo or .bgeo)	Objects produced by Aegis's predecessor to LightWave's Modeller3D.
Vista DEM (.scape)	Digital elevation map files created by Virtual Reality Laboratories Vista range of software.

Contact

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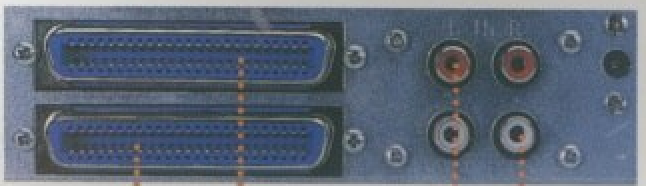
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